

• NOVEMBER 1958

BUTANE-PROPANE

A CHILTON PUBLICATION

News

PARADE OF
GAS PROGRESS

Here's How
Grasso Grows

HEADQUARTERS FOR L.P. GAS INFORMATION SINCE 1931



Your Customers
Want To Be Metered

FOR ALL THESE REASONS

NO "OUT-OF-GAS" CALLS

PAY AFTER USE

SMALL MONTHLY PAYMENTS

ACCURATE MONTHLY BILLINGS

KNOW EXACT MONTHLY CONSUMPTION

NO NEED TO WATCH TANK LEVEL

GIVE THEM ROCKWELL METERS—THE BEST!



Call it *customer confidence* if you like, but that's one big advantage you gain from metered service. With meters you put yourself on a par with the gas utilities—identify your operation with the gas business. And remember, meters save in many ways—through better scheduling of deliveries, increased storage capacity and lowered accounts receivable. Get facts now. Write Rockwell Manufacturing Company, Pittsburgh 8, Pa.



The little meters you need! Aluminum rust-proof case. Easy to install on brackets. And they can be repaired, quickly and economically.

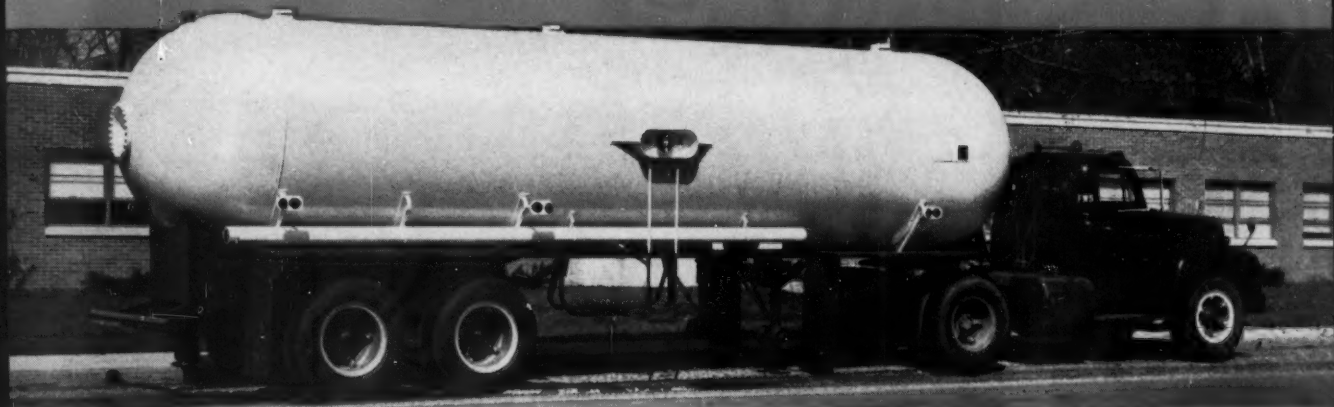
LP-GAS VAPOR METERS

another fine product by

ROCKWELL



INVESTMENT NOTE FOR TRANSPORTERS



Why you get more money mileage from *Hackney* T-1 transports

Eventually you will use only T-1 transports. They carry more pay load, at less cost, for more profit. And if you want more money mileage for your investment... more years of over-the-road service with minimum maintenance and repairs—you'll want *Hackney T-1 transports*.

Why? Because our engineers made some new rules, and improved old ones, for quality manufacture of transports using T-1 steel! For example, they:

- *perfected* new methods of manufacture to preserve all the inherent qualities of T-1 through all processes
- *devised* superior techniques for welding T-1 steel
- *developed* more efficient X-ray and Magnaflux inspection methods
- *established* stress-relieving procedures particularly adapted to the protection of T-1 steel
- *installed* only approved vapor-proof lights, wiring, junction boxes

• *finished* the T-1 tanks with special heat-deflecting, grime-resisting enamel—applied *hot*

• *complied* with all safety regulations and inspection codes established by ASME, ICC and state authorities

Built to meet your local load limit laws

Hackney T-1 transports are built to meet your requirements as to gross and axle load limit laws, tractor type and power, special equipment such as pumps, hose tubes, tire carriers, rear cabinets and other equipment you want.

Standard equipment includes rugged anti-surge baffles; vapor-proof lights and wiring; protected relief valves; a rear-end suspension assembly of high-quality, nationally known components; upper fifth wheel structure and adjustable pin; two-speed, crank-type landing gear; the finest approved valves and gauges, with forged steel fittings and extra-heavy piping.

Write for complete information or to have our representative call. Tell us in what states you operate, and describe the tractor you plan to use.



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Manufacturer of Hackney Products

1487 South 66th Street, Milwaukee 14, Wisconsin

Branch offices in principal cities

LP-GAS CONTAINERS FROM ONE POUND TO 30,000 GALLONS



cylinders



systems



fuel tanks for
trucks and tractors



lift truck tanks



tank trucks



transports



bulk storage tanks



*Humphrey Re-writes the
Heating Rules... to Help
Dealers Beat Competition
and Still Make a Profit!*

NEW
Humphrey
M*ulti*
D*irectional*
GAS UNIT HEATER

**Gives Better Heating
with FEWER Heaters**

On job after job, heating contractors are cutting the cost of the original installation yet giving better heating service, by using Humphrey MD gas unit heaters.

In high-ceiling rooms, it is possible to provide the required temperature with smaller or fewer heaters because the top mounted fan utilizes 80% of the wasted ceiling heat. Actual tests have proven fuel savings of 15.38%!

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Why not find out how you can cut your heating estimates with the MD — the heater with the top-mounted fan, that circulates warm air *four ways* at the same time? Write for eight-page brochure and Application Handbook.

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KALAMAZOO, MICHIGAN



ROCKWELL

ER-Series Oscillating Piston LIQUID LPG METERING SYSTEM

We've made it easy and economical for you to get all the benefits of an LPG truck metering system. Now you can have a simple Rockwell ER-Series oscillating piston meter hooked up to a patented pressure loaded dispensing system that positively eliminates vapor and assures measurement of only liquids. This meter has fewer parts than others. Its accuracy and durability have been proved over many years.

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The Rockwell ER-Series meter has an *external micro-adjustment* that permits a wide range of calibration to extremely fine limits. You do this with the turn of a screw driver. *There's no need to dismantle the meter or to use change gears when adjusting for accuracy.* Get full facts now. See your nearby Rockwell jobber, district office or write for literature. Rockwell Manufacturing Co., Pittsburgh 8, Pa.



**EVERYTHING YOU NEED
FOR ACCURATE TRUCK
MEASUREMENT IN ONE
EASY-TO-INSTALL PACKAGE**

You can buy the Rockwell ER-Series metering unit in either 1" or 1½" size with a capacity of up to 70 gpm. We furnish meter, differential valve and strainer. An easy-to-follow installation diagram is furnished with each order.



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this
informative
bulletin
today**



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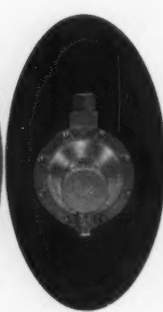


2503 SERIES
The standard on all systems for large domestic and industrial loads. Capacity up to 500 CFH (1,250,000 btu/hr.)

You name it . . . **REGO** makes it in reliable,



2403 SERIES
Standard for domestic installations using ICC cylinders, and small bulk storage systems. Capacities up to 250 CFH (625,000 btu/hr.).



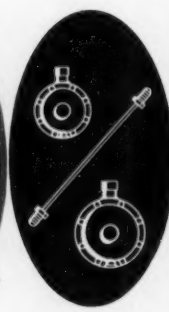
2303 SERIES
A high quality, small size regulator for loads up to 50 CFH (125,000 btu/hr.).



2302 SERIES
An inexpensive regulator, ideal for mobile-home and salamander loads up to 60 CFH (150,000 btu/hr.).



2503G4 TOBACCO BARN REGULATOR
Supplies 12 to 20 burners at 11" to 16" pressure. Capacity, 500 CFH (1,250,000 btu/hr.).



5070 BACOPAC OUTFIT
Complete 2-stage outfit specifically designed for tobacco barn installations.



1586 SERIES—BIG BLUE BOY
For commercial and industrial loads—asphalt batch mixing plants, tar wagons, restaurants, hotels. Capacity up to 3500 CFH (8,750,000 btu/hr.)—3/4" NPT connections.



1588 SERIES—BIG BLUE BOY
Similar to 1586 Series, but with 1" NPT inlets instead of 3/4".



DO YOU KNOW
It will pay you
dividends to join!



First, Foremost and Finest

BUTANE-PROPANE News

Regulators . . . the finest your money can buy!

HERE'S WHY!

Delivery Pressure Is Uniform over a wide range of flow, regardless of considerable variation of inlet pressures.

Lock-Up (Shut-Off) Pressures Are Lower because diaphragm area is larger in proportion to the nozzle as compared with ordinary regulators. This higher mechanical advantage gives greater closing force, positive control.

Capacity Is High in hot weather or cold because diaphragms and seat discs, developed through extensive research, perform dependably in arctic or tropical temperatures.

Quality—The Finest, built of finer materials which cost more but which give better performance and greater user satisfaction.

Die Cast Aluminum Bodies and Bonnets resist corrosion, protect themselves in any service environment, are lightweight, have higher tensile strength and never deteriorate even after long years of service.

Produced For Performance—not for a price. RegO regulators are built for long-range reliability. That's why they're your best buy . . . now and always.

DON'T LET SERVICE CALLS ROB YOU OF PROFITS

Suppose you make a service call 10 miles away. At 15c a mile for your service truck (yes, we said 15c), that's \$3.00 round trip plus a minimum of \$2.00 for travel time. Suppose it takes only a half-hour to install a new regulator—another \$2.00. Altogether, the call has cost you \$7.00, plus the cost of the regulator.

Let's assume this was one of 50 regulators you bought "at a price"—say 10c per unit less than RegO. True, at that time, you "saved" \$5.00, but with this first service call you already are \$2.00 in

the red (plus the cost of a regulator) . . . and you still have 49 more of those "bargains" to worry about.

RegO customers say the few pennies more they may occasionally pay for RegO regulators is the best part of their investment, for it represents the extra quality that makes such a purchase sound business.

You get no "deals" from RegO—just technical excellence, unquestioned top quality, honest value for proved performance and peace of mind. Product integrity and customer confidence have made, and keep, RegO the leader!

quality regulators



RED GIANT SERIES
The favorite first-stage regulator for all domestic systems.



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Pressure gauge provides a check of delivery pressure as well as a means of isolating difficulties on service calls. Designed to fit under all system hoods.



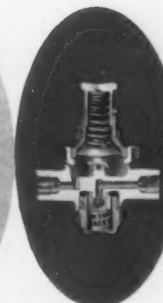
7523 SERIES
Automatic throwover manifold to convert manual systems to automatic. Direct or remote service indicator optional. Inverted flare or POL inlet connections.



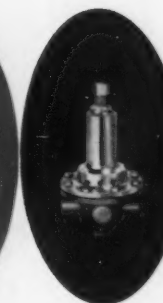
CERTIMATIC REGULATORS
Certified-performance automatic cutoffs for CP ranges and other modern appliances. Make your customers warm friends with these.



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Compact, rugged, high-pressure regulators for torches and other portable high-pressure burners.



467 SERIES
Small, sturdy, inexpensive regulator for pounds-to-pounds regulation of pressures up to 45 psi.

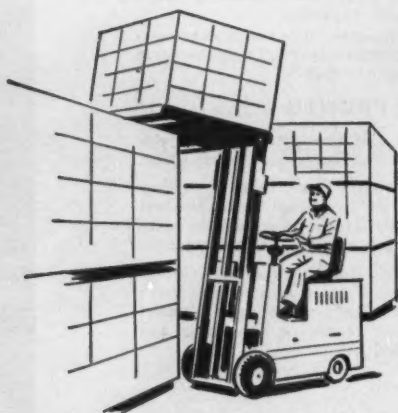


400 & 1140PA SERIES
Large-capacity, heavy-duty first stage regulators for flash vaporization on liquid withdrawal industrial systems.

The **BASTIAN-BLESSING** Company

4201 West Peterson Avenue • Chicago 46, Illinois

LP-Gas Carburetion is your Fastest Growing Market...



INDUSTRIAL USES



TAXI CABS AND CARS

YOU CAN DEPEND ON...

FISHER[®]

**FOR QUALITY
LP GAS EQUIPMENT
AND
FASTER SERVICE**

If your fuel volume is seasonal... if you're looking for a real load balancer... look to the carburetion field. It's a big market and it's growing fast year after year—up to 30% over last year.

But, be prepared! This is one market where quality control equipment is imperative. Engine fuel systems demand dependability. No system is better than its control equipment.

Consider this—From Fisher you get fast, dependable delivery service on the best in motor fuel fittings at attractive prices—all backed by three quarters of a century of engineering know-how. Use this service to capture the combustion engine market.

Fully descriptive bulletin No. LP-50

Is yours for the asking

OF A CENTURY OF ENGINEERING KNOW-HOW...

FISHER GOVERNOR COMPANY

Marshalltown, Iowa / Woodstock, Ontario

FISHER[®]
Controls
SINCE 1880

STEP ON IT!



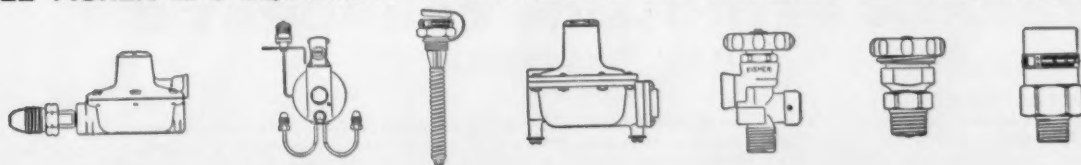
TRUCKS AND BUSES



FARM TRACTORS



ALL FISHER LPG EQUIPMENT IS BACKED BY MORE THAN THREE QUARTERS



it's not too late!

THIS WINTER

BE SAFE...

BE SURE all your
tanks and your
customers' tanks are
full of Warrengas or
Gulftane *NOW* to meet
the demands of cold weather



**FOR A DEPENDABLE SUPPLY ALL WINTER
...CONTACT OUR NEAREST SALES OFFICE**



**WARREN PETROLEUM CORPORATION
TULSA, OKLAHOMA**

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**BPN**

Letters

Many problems involved in heating swimming pool

Idaho

We have a very good customer who installed a gas-fired boiler to heat his commercial swimming pool this spring. He has had considerable trouble, and has had an extremely high gas consumption without efficiency. A plumbing concern installed the unit and piping and we were called in after the installation was made, to furnish the tank and gas. We have now inherited the plumbers' headache, as they have been unable to get the unit operating satisfactorily and the customer has asked us to correct the condition.

We are most anxious to hold this customer for L. P. gas, as he is an excellent summer load, so we would appreciate any suggestions you might have. Following is the technical information as to the pool, load and present installation:

Boiler: 25 hp; water, 30 lb; steam, 15 lb.

Burner: L. P. gas input, 790,000 Btu/hr at 10 in. wc.

Controls: 5 psi.

Pool dimension is 110 x 40 ft; average depth is 6 ft. Capacity of pool is 300,500 gal. Pump capacity is 100 gal. per minute going through the boiler.

L. P. gas tank is 1000-gal. tank connected with a 2-stage system. The first stage is at 10 lb and the second stage is at 11-oz wc. Pressure holds when the burner is in operation.

The problem has been that the customer has been getting only a 12 degree temperature rise, and he needs at least a 30 degree temperature rise, and his gas consumption is averaging 123 gal. per day. Can the needed temperature rise be accomplished with the unit as it now stands, with alterations, or would you recommend another type burner? We feel that the burner now in operation is of the wrong type, and is using too much gas

for the temperature rise recovery.

We have had no previous experience with installation or firing a boiler such as this, and to our knowledge have no qualified manufacturers' representatives in this area which we may consult. We want to keep the system as simple as possible, and to keep our customer's cost down to a minimum as he has already defrayed considerable expense in this operation.

D. B.

The burner in the boiler is under-size for a 25 hp boiler. A 25 hp boiler should have burner input capacity of at least 1.25 million Btu per hr. The manufacturer of the boiler can best advise on the proper gas burner for the boiler. He may have a proper burner for it. Also, he can advise if the baffling should be changed for gas firing. It is often necessary to change the brickwork and baffles in boilers to obtain best results when boilers built for oil or coal are converted to gas.

If the circulating pump is actually moving 100 gal. of water through the boiler, the boiler is operating fairly efficiently with the present burner, but is not able to do the heating job that it is designed to do.

The amount of water which the pump is moving depends on the rating of the pump head against which it is pumping, live restrictions, and the conditions of the pump. Actually, since the pump picks the water out of the pool and it returns to the pool below the surface, there is only the friction losses in the pipe and boiler that the pump must work against. If the piping is large and free from a lot of bends, this friction loss should be relatively low and the pump can move near its rated capacity. If the pipe is undersize, and there are many bends and elbows, friction losses may be high and the pump will not move as much water as it is designed to pump. Pumps are rated to move a specified amount of water against a certain head. This may be zero head

or it may be a specified pressure head usually stated in feet of water.

Suppose the pump is moving 100 gal. of water per minute, and the boiler is raising the temperature 12 degrees F. The following will show the boiler is doing about all it can with the burner that is in it:

Raising the temperature of one pound of water one degree Fahrenheit requires one Btu. (Technically there is a slight variation from this, but the above is so close that the error is negligible.)

Now: 100 gpm x 8 1/2 lb per gal. =

833 lb per min circulated

833 x 60 min = 49,980 lb per hr circulated

49,980 lb x 12 degrees F temp rise requires 599,760 Btu's to raise the temperature of the water circulated 12 degrees F

599,760 Btu input to water ÷ 790,000 Btu input to the burner = .76 or 76 per cent efficiency of the boiler.

The above figures assure that the pump is circulating 100 gpm and the burner is using 790,000 Btu per hr. On the above basis the boiler is working about as efficiently as can be expected with the under-sized burner.

You did not say whether he operates the boiler continuously 24 hours, or if he shuts it down at night. Based on the rated capacity of the burner, and the consumption of 123 gal. per day, he either shuts the burner down part of the time or there is something wrong.

123 gal. of propane at 91,600 Btu per gal. = 11,250,000 Btu.

790,000 Btu per hr input to burner x 24 hr = 18,950,000 Btu.

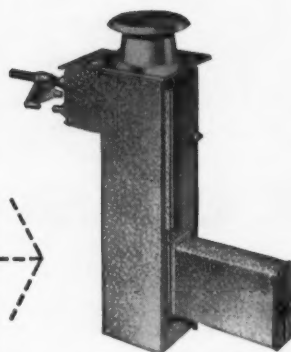
11,250,000 ÷ 790,000 Btu per hr = 14.25 hr per day boiler operation.

What takes place? Does he shut down or is there something wrong with the consumption figures? If he operates the boiler 24 hours per day, then the burner is not receiving 790,000 Btu per hr. If it is not, then the pump is not circulating 100 gpm. The burner input can be easily checked by installing a vapor meter between the

Sell 600 lbs. LP-gas/year

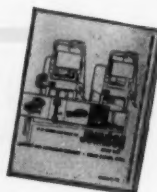
johnson
WATER WARMER

You sell more than an automatic stock tank heater when you sell a Johnson Water Warmer. You sell an average of 600 lbs. of LP-Gas per heater per year. The dependable, weather-proof Johnson Water Warmer is easy to sell, too. Cattlemen and dairymen know their stock do better, profit more, when their water is at a drinkable 48°. And the Johnson Water Warmer maintains that temperature in the coldest weather. It's safe, efficient and very easy to install. Profit twice with the Johnson Water Warmer.



Write for catalog of
Johnson's complete
water heating line.

**JOHNSON GAS
APPLIANCE CO.**
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johnson
If it burns gas
look to Johnson . . . Since 1901



**ONLY the
KEATING TRUMP FRYER
is UNCONDITIONALLY
GUARANTEED to out-
perform ALL other
FRYERS in every
single respect . . .
or your MONEY BACK!
YOU ARE THE JUDGE!**

KEATING of CHICAGO INC.

1210 West Van Buren Street • Chicago 7, Illinois

secondary regulator and the burner.

I do not know on what basis your customer bases the 30 degree F temperature rise he claims he needs. I do not question him on it. But if he needs to raise the temperature of 100 gpm of water 30 degrees F, then $100 \times 8.33 \times 30 \times 60 = 1,500,000$ Btu per hr must be delivered to the water by the boiler. If the boiler operates at 80 per cent efficiency, the input to the boiler burner will need to be 1,875,000 Btu per hr.

We do not think the present boiler will handle that large a load. The boiler manufacturer can advise you.

Your customer has a large swimming pool, and there will be a large heat loss from the $40 \times 110 \text{ ft} = 4400$ sq ft surface in your dry climate. A windbreak will help reduce this loss. You get into some astonishing figures sometimes when swimming pools are involved. Until you start figuring, you may not realize it would take that 100 gpm pump working steady at its rated capacity a little over two days to move all the water in the pool. And that it would require about 34 gal. of propane to raise the temperature of the water in the pool 1 degree F with the heater operating at 80 per cent efficiency.—Ed.



**More heat units in
butane than propane**

Nicaragua

We are distributors of L. P. gas in this country and also we install all kind of appliances that operate with that fuel.

We distribute commercial butane —70 per cent butane 30 per cent propane mixture—and occasionally we have delivered propane; however, every time we sell propane we always get complaints from most of our customers in the sense that the cylinder goes too fast or did not last enough.

We have checked all the installations involved and have found them correct. However, as long as we keep distributing propane the complaints subsist.

Could you explain the reasons of this situation?

G. Z. O.

It is possible that you are not delivering as much actual heat when you deliver your customer a cylinder of propane instead of the 70 per cent butane, 30 per cent propane mix.

If you are filling the cylinder in

accordance with NBFU pamphlet No. 58, paragraph B.12, you are actually shorting the customer on heat units delivered to him. Your mixture of 70 per cent butane and 30 per cent propane has a liquid specific gravity of about .5612 while propane is .508. From the table under paragraph B.12, the filling density for the mixture at .5612 specific gravity is 49 per cent of the water capacity and for .508 is 42 per cent of the water capacity. Then a cylinder of 200 lb water capacity filled in accordance with the above would contain $200 \times .49 = 98$ lb of the mixture and only 84 lb of the propane.

The mixture will contain about 21,420 Btu/lb and the propane 21,670 Btu per lb. So your cylinder will contain $21,420 \times 98 = 2099,160$ if filled to the legal limit with the mixture, and only $21,670 \times 84 = 1820,280$ Btu if filled to the legal limit with propane, 13.25 per cent less heat, which would be noticeable.—Ed.



Problems of handling LPG in Germany

Germany

We get our liquid gas in railroad tank cars. We pump into our two stationary tanks and from there, into a room for bottle filling. We have bottles in sizes of 11, 24, and 73 lb. This bottle gas we distribute on a truck to 500 stations. These stations will in turn deliver to their customers.

We have difficulties in getting the tank cars empty. When our pumps do not deliver any more gas, we assume that the tank cars are empty. There is no way for us to weigh the tank cars and find how much gas is left in them.

The refinery that delivers the gas to us weighs them when they return and sometimes they are found to be still half-full. We are looking for a method to combine our pumps with a gas meter so that we can read exactly how much we took out. Here in Germany, there is no gas meter for L. P. gas.

Can you give us the information and addresses of manufacturers of this type of equipment in your country?

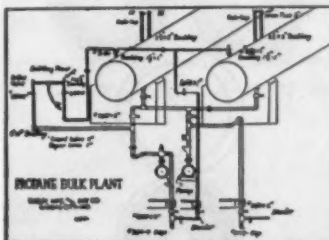
We have a "Bottle Park" which holds about 40,000 bottles. We have no control over the bottles once they leave our establishment. Each

Your One Supplier with everything in L. P. gas and Anhydrous Ammonia Equipment



"The Loadmaster" LPG Truck Tank

PASLEY-DESIGNED Truck Tanks (see above and right) were first to feature all controls from one location. All operation is from one point—rear compartment.



BULK PLANTS Pasley LPG and Ammonia type installations—a turnkey job or engineering for your own installation. Write, wire or call.

Also a complete line of accessory equipment.

"Pastels By Pasley"

COLOR—The Modern Trend! Bring your LPG Equipment up to date. Available in the following colors . . . (write for information)

Blush Peach	Smoky Grey
Sunshine Yellow	Seafoam Blue
Mustard Lime	Wedgewood Green
Eureka Orchid	Rose Beige
Lake Blue	Desert Rose



EVERYTHING IN LPG AND ANHYDROUS AMMONIA

The Pasley Mfg. & Dist. Co.

601 East 11th Street • Kansas City, Mo. • Tel. Victor 2-2366

New **extra-fast cutting** **RIGID No. 315** **Tubing Cutter**



Capacity
3/8" to 1 1/4"

**3-Wheel
Design**
gives quick, clean cuts
even in tightest places!



Compact and light, yet strong, this new No. 315 **RIGID** 3-Wheel Tubing Cutter is extra handy on every job. Just what you need for that hard-to-get-at tubing. No skinned knuckles . . . no slow hack saw. Cuts copper, brass, aluminum, steel tubing and thin-wall conduit. Handy **RIGID** fold-in reamer protects hands and pockets. Try the new **RIGID** No. 315 and you'll wonder how you got along without it. Ask your Supply House today.

The Ridge Tool Company • Elyria, Ohio, U. S. A.

bottle has a number and before we had so many bottles, we delivered the bottle and registered it to that customer and had a record so that we could request the bottle back if they did not return it.

However, since the "Bottle Park" became bigger, much confusion developed and soon we had no control whatever over the bottle numbers and where they went.

Here in Germany we are not allowed to charge deposits on these bottles. Do you have any solution for the above problems?

W. S.

We are not familiar with the tank cars in your country. All tank cars in our country have a gauge on them by which we can tell how much liquid is in the car at any time. We know some European cars are equipped with these gauges. Also, your storage tanks should have liquid level gauges on them.

If there is no gauge on the tank car, but you do have a gauge on your storage, a careful reading of the quantity of liquid in your storage before and after pumping the liquid from the car should give you sufficient information to know if the car is empty or at least very near empty.

There are two or three good liquid L. P. gas meters made in this country. The names and addresses of the manufacturers are as follows: Neptune Meter Co., New York City; Rockwell Manufacturing Co., Pittsburgh, Pa.; Bowser, Inc., Fort Wayne, Ind.

We are taking the liberty of asking them to send you information about their meters. They may have European licensees or distributors.

It is not easy to meter L. P. gas. You must follow the manufacturer's instructions exactly if you are to obtain good results.

Vapor pumps, or compressors, are used extensively in this country, to transfer fuel from tank cars to storage. These compressors draw vapors from the storage vessels and pump it into the tank cars. This creates a higher pressure in the tank car than in the storage and forces the liquid to flow to the storage. A sight flow indicator can be placed in the liquid line to indicate the passage of liquid or vapor. A quick drop in differential pressure across the compressor will also indicate that the liquid is out.

Keeping track of containers is a matter of proper records. We suggest a two-section tag or a card with carbon slip be attached to each cylinder when it is filled. The card should have a space on it for the cylinder number, amount of fuel in the cylinder, date filled, date sold, customer's



FROM ANY VIEWPOINT

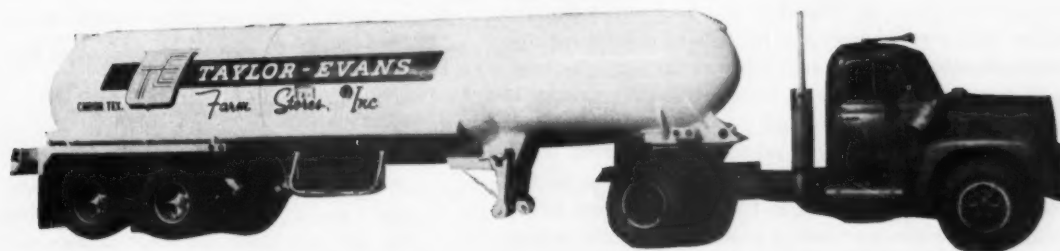
LMC Transports offer you more

Year after year, more and more LPG dealers have given LMC products the strongest possible recommendation . . . that of re-ordering additional units after carefully checking the performance of their first LMC tank.

From small units, for home delivery on the Plains, to 10,000 gallon transport tanks to haul loads in steep mountains LMC has pioneered many changes which are now standard features on all transport tanks.

Many dealers who started with one single barrel LMC home delivery unit are now operating fleets of transport tanks, all engineered for economy by Lubbock Machine.

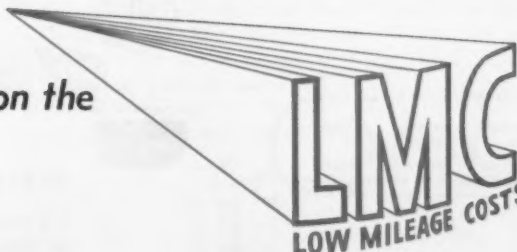
Write, wire, or phone today! Find out how easy it is to purchase on the Budget Plan or the LMC Lease-Purchase Plan.



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Buy on the



Box 1589 PO 2-5261
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**Budget or Lease-
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This little gem...

*... fits more applications - - costs less than
any other regulator in its capacity range*

If you could stock but one regulator you would find the Sel-Pac 1605 would handle the majority of domestic installations. In other words, it will handle a greater "pay load" for its size and with the same dependable performance of all Sel-Pac regulators. National popularity of this unit is indicated by its phenomenal sales during a period of so-called "recession slump." There was no recession for this little gem — the hottest thing in LP-Gas equipment today. Dealers everywhere are turning to the Sel-Pac 1605 mainly because of its small size, low cost and its built-in freeze resistance. Truly a Deluxe unit — a small regulator with big regulator features.

- 1 Minimizes freeze-ups. No moisture traps.
- 2 Dependable control of flame height because of large diameter soft spring.
- 3 Beautiful NEW finish. UL Listed.
- 4 Capacity surpasses average domestic load of range, water heater, refrigerator and space heater. If you are not already using the Sel-Pac 1605, why not place your initial order today?

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SEE

your local
Sel-Pac representative.



SELWYN-PACIFIC COMPANY

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Los Angeles 61, California

(Advertisement)

Baby It's Cold Inside!



by
WALTER BOND
Sales Manager
SELWYN-PACIFIC
COMPANY

In the winter when it's cold outside we could put on our Parkas and Mukluks and be fairly comfortable, but for an LP-Gas regulator it's a different story.

Because of the expansion of high pressure gas which takes place inside it, a regulator is really a small refrigerator, so for a regulator regardless of the season . . . baby, it's cold inside!

If you feed regulators dry gas, this refrigeration won't affect their performance, but feed them some moisture and you'll have an automatic ice cube maker that could result in freeze-up.

Listed below are some simple ways to keep moisture out of your gas supply to prevent this type of freeze-up from occurring:

1. Be sure your tank or cylinder is properly purged of moisture before you put it into service.

2. Be sure that the regulator inlet is higher than the valve inlet. (In this position any moisture which may have a chance to collect in the pigtail will drain back into the container rather than into the regulator where it could cause freeze-up.)

3. Always cap transfer hoses when they are not in use. (This precaution will prevent moisture from collecting at a point where it could be pumped into your gas supply.)

4. Always be sure that the cylinder valve is tightly closed on an "empty" cylinder. (This will prevent the cylinder from breathing in moisture while it is waiting to be filled.)

5. A quick opening and closing of a cylinder or service valve before making the pigtail connection will blow any moisture or dirt which may accumulate in the outlet into the air rather than through the pigtail and into the regulator. (Did you know that 95% of regulator trouble stems from foreign material on the seat?)

6. Always employ two-stage regulation wherever possible. Even if you have moisture in your fuel, two-stage regulation will offer you freeze-up protection which is impossible to gain through a single stage installation.

An automatic ice cube maker is a wonderful feature when it's in the form of a gas refrigerator. To keep ice cubes out of your regulator where they don't belong . . . keep moisture out of your fuel.

SELWYN-PACIFIC COMPANY
P. O. Box 61031, Los Angeles 61, Calif.

name and address and any other pertinent information that may be needed.

According to your letter the cylinders are filled at your plant and then delivered to stations which in turn deliver to their customers. You can easily keep a record of the bottle numbers delivered to industrial plants or the stations. The station operator should then be made responsible for the record of bottles by customers.
—Ed.



How to figure orifice capacities at high pressure

Indiana

Is there a chart or a booklet available that would tell us what the hourly Btu rating of a burner would be under 1 lb pressure up to 30 lb pressure at the orifice for L. P. gas? Most LPG equipment is figured at 6 oz pressure but with the trend towards torches, etc., that use different pressures, it is hard to estimate consumption figures for the customer.

The orifice size plus the pressure would give what Btu per hour?

R. J. C.

We do not have a table covering orifice capacities at high pressure. Some of the burner manufacturing companies have capacity tables for a large range of pressures and orifices. However, the tables are usually for some other than L. P. gas and they have to be converted.

You can build your own chart without too much effort with the formulae shown on the tear sheet of "Letters," pages 13 and 14 of the February, 1958, issue of BUTANE-PROPANE News.

Using the formula given for a series of orifice sizes and pressures is not as difficult as it seems. "H," the head, will be constant for a series of orifices. Then a factor "C" can be worked out with the other constants and "H." The formula then becomes "Q = AC" and it is merely a multiplication of the calculated factor for each pressure "H" times the area "A" of the orifice to find the values of "Q."

Please note an error in the last formula on page 13. The "A" following 33,633K should be removed.—Ed.



(Advertisement)

You'll close more appliance sales when you use this handy COMPETITIVE COST CALCULATOR



Now . . . with this authoritative, convincing sales tool, you can prove to your prospects *quickly, easily, and simply* that LPG costs less than electricity for cooking and water heating. Money talks with most people, so *dramatize the savings* with a Competitive Cost Calculator.

Compares the average annual cost of operating LPG versus electrical appliances, using your own local rates.

Proves to your customers' satisfaction that it's less expensive to cook and heat water with LPG than with electricity.

It's authoritative! Average annual usage figures for both LPG and electricity are taken from Technical Bulletin 1073 prepared by the U. S. Department of Agriculture. It will last for years. Made from durable plastic-laminated board.

LPG OPERATORS—

The Competitive Cost Calculator builds fuel sales as it builds appliance sales. Hundreds of LPG appliance salesmen are using the Calculator to add authority to their sales presentations. Be sure each of your salesmen has one with him on every call.

\$1.00 each

Orders of 50 to 99—80¢ ea.

Orders of 100 or more—70¢ ea.

(In California add 4% Sales Tax)

**The supply is limited,
so order today!**

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LOS ANGELES 57, CALIF.

FOUR NEW

Nor-Tex

BIGGER

Nor-Tex
STANDARD
TWIN

You'll Haul
Extra Gallons
Each Trip!

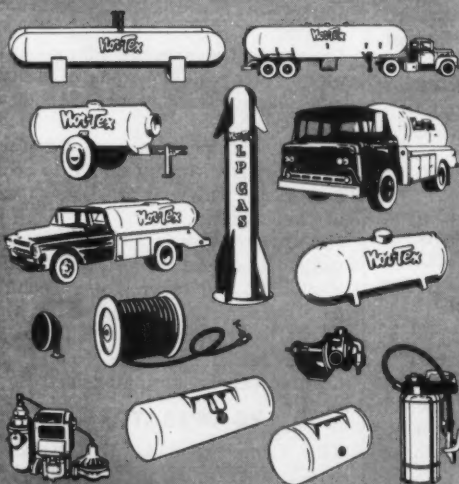
Nor-Tex
PAYLOAD
SPECIAL

You'll Deliver
Extra Gallons
Each Trip!

2500 WG Units Now Weigh

TRANSPORTS

LOOK TO
Nor-Tex **For ALL**
Your LPG NEEDS



WRITE, WIRE
OR PHONE
FOR PRICES



National Sales Agents for

NORTH TEXAS

You can now haul MORE GAS and LESS STEEL than ever before with skillfully engineered, smart looking, streamlined Nor-Tex transports of T-1 and A-202 steel. These easy-to-maneuver, road-tested units are hauling more gas and substantially boosting profits for users everywhere. Nor-Tex transports are safe and dependable . . . built by men with years of bulk plant experience.

WE ARE TRUCK DISTRIBUTORS

As authorized new truck distributors Nor-Tex can save you hundreds of dollars on Internationals . . . Chevrolets . . . Fords and GMC's. Order any unit you need. You can't beat a Nor-Tex deal for all around value.

ROCKET

Boosting Sales
Everywhere

Everyone is talking about the excellent Nor-Tex attention-compelling LPG Service Station . . . flexible to any type of installation . . . occupies only 72" diameter.



May We Help You?

Phone, wire or write today! Interested attention, experienced assistance and helpful suggestions are yours for the asking.

PAYLOAD DELIVERY UNITS

Nor-Tex
CUSTOM
TWIN

**You'll Work Fewer
Hours ... Drive
Less Miles!**

Nor-Tex
DE LUXE
TWIN

**You'll Earn
More Money The
Nor-Tex Way!**

Under 23,000 lbs. Loaded!

Nor-Tex presents the newest development in sleek, LIGHT-WEIGHT, stream-lined twin or single barrel LPG Delivery Units and again Nor-Tex is FIRST with ALUMINUM SKIRTING and CABINETS and engineering designs which have reduced over-all weight. 3000 WG units and over are also available for use on cab over or cab forward trucks and are still within the 18,000-lb. axle limit.

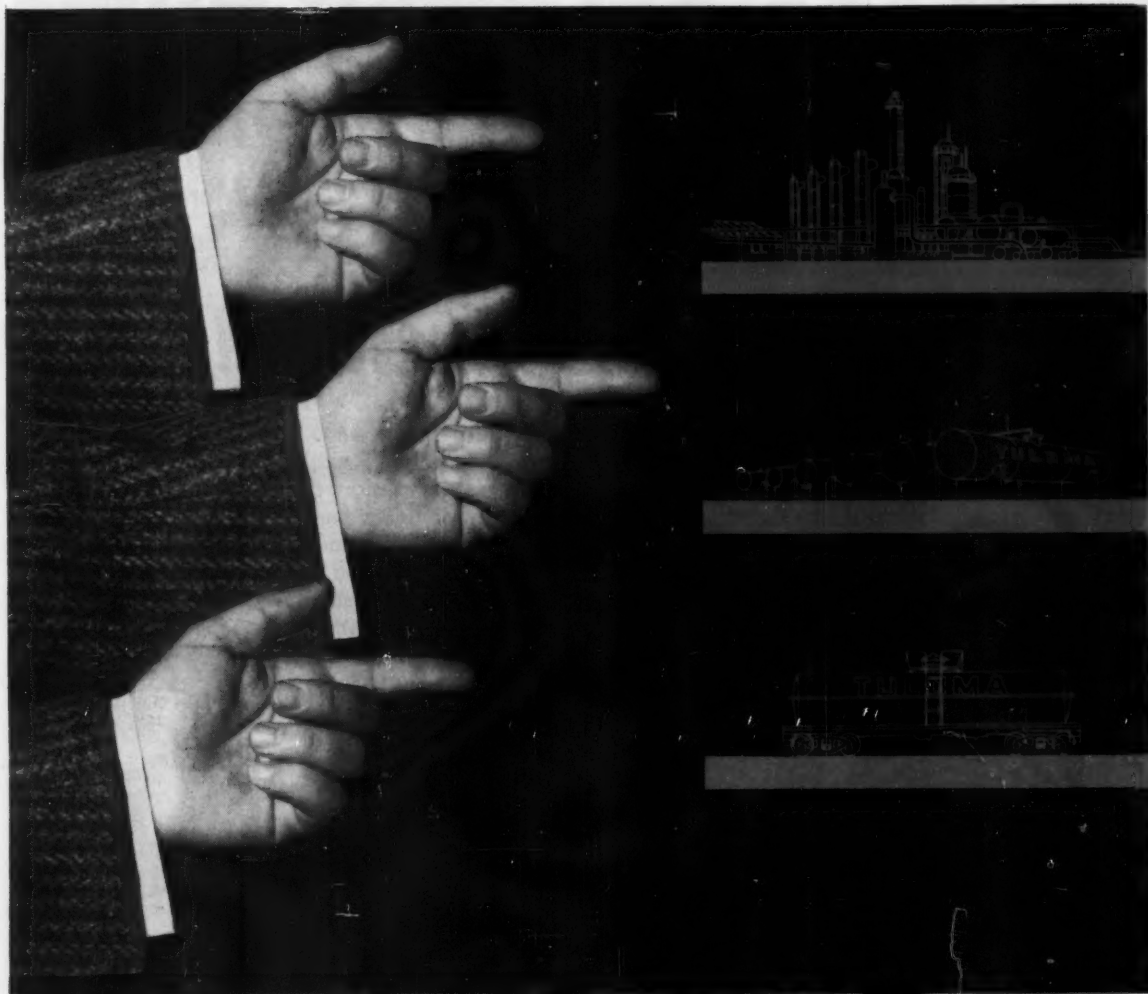
Nor-Tex Custom units haul "extra" gallons each trip! You deliver "extra" gallons faster with Nor-Tex custom designed high flow plumbing. You take fewer hours and travel less miles to deliver a gallon of gas. For day in, day out efficiency, durability, payload, fast loading, high rated delivery, perfect balance and appearance Nor-Tex delivery equipment can't be beat!

Ideal In States Imposing Ton Mile Tax



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DENTON, TEXAS
DUpont 2-5416



SERVICE

PRODUCTION STORAGE TRANSPORTATION

Wherever your location — whatever your size of operation — you can profit from Tuloma's complete LP-Gas service. Tuloma's truck and tank car fleets give dependable service from strategically located sources of supply. Experts trained in all phases of LP-Gas operation give your account — large or small — the close attention you want . . . "plus services" for aggressive LP-Gas distributors and dealers.

WRITE, WIRE OR CALL THE TULOMA OFFICE NEAREST YOU

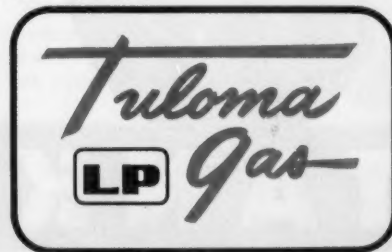
DISTRICT OFFICES

Williamsburg, Virginia
 Moorehead, Minnesota
 Salt Lake City, Utah
 Billings, Montana
 Des Moines, Iowa
 Russell, Kansas
 Houston, Texas
 Midland, Texas



TULOMA GAS PRODUCTS COMPANY

Pan American Building • Phone CHerry 2-3261 • Tulsa, Okla.



beyond the mains



THE SEARCH FOR MISS FUTURE HOME ECONOMIST OF 1959 by the Kentucky LPGA was a pronounced success, not only in the choice of a winner, but in the steps that led to the selection. We think this idea could be most profitably adopted by other state associations, and might eventually be built up into a national event, with a great multiplication of promotional and publicity values throughout the nation. It is one of the most effective "catch them young and train them right" deals that we have seen.

The Kentucky deal works this way: The contest is open to any home economics major in any college in the state where this training is offered. Each school offers its own candidate, selected on the basis of knowledge of L. P. gas, ability to write and make a good demonstration, and of course personal charm. In selecting its candidate for the final contest at the annual convention of the Kentucky LPGA, the entire group of eligible girls goes through an intensive course of training in LPG. Not all of the girls enter the contest, but they are all exposed to the facts. Those who enter show what they can do in writing an essay on some phase of utilization of LPG, and in making a demonstration of a range.

The finalists submit their essays in advance of the convention. These are judged, rated and reported on by selected judges from the LPG industry. These candidates come to the convention as guests of the Association. There they put on competitive demonstrations, which are judged by a separate group of experts. The scores in both phases of the contest are added up, and the winner chosen. Her coronation as "Miss Future Home Economist" is one of the high spots of the convention banquet.

In the meantime, as part of the preliminary work, all girls majoring in home economics in the state have learned of the uses and advantages of LPG. From these graduates come most of the future teachers of "home ec," as well as the home demonstration agents of the extension service. A little work during their school days thus spreads into a wave of influence that affects the buying in rural homes for many years to come. It requires a bit of work by the association officers and the dealers in the college communities, but the results keep coming into the LPG dealers' cash registers throughout the state for years.

May we suggest that the directors of all state associations consider this plan on its merits, with the idea of building a nation-wide program that will bring many benefits to all L.P. gas dealers? It should not stop as a state event--the publicity benefits can be repeated by making the state winners eligible to enter a similar contest at the regional conventions, and these winners could then go on to a national contest. This could be a more fruitful promotion for our industry than the Mrs. America contest, which has been used with good local success by many of our progressive dealers. It's time we had a national promotion of our own, and this seems to have what we need.

Carl Abell

For

Dependable

Service



Texas Natural is the world's largest independent producer of Butane and Propane. Thus the quality of Texgas can be controlled at every step of the manufacturing process. This means you can depend on TEXGAS quality month in and month out.

Investigate a contract with Texas Natural. See how you can benefit buying direct from a producer that is large enough to supply your needs, but small enough to take a personal interest in your operation. Remember . . . LP-GAS IS NOT A SIDE-LINE AT TEXAS NATURAL.

BUY FROM A

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TEXAS NATURAL GASOLINE CORPORATION
800 ENTERPRISE BUILDING
TULSA, OKLAHOMA

Producers of:

• BUTANE • PROPANE • NATURAL GASOLINE





Here is an exclusive BPN field report on how Grass "O" Gas brought about its fabulous growth.

Here's how Grasso grows

By MARTIN A. BROWER • Managing Editor

IN slightly more than two years time, Grass "O" Gas Inc., Lemay (St. Louis), Mo., has used the combined forces of sales, advertising, promotion, public relations, and scientific management to transpose itself from a newcomer to the LPG industry to a leading factor in the St. Louis LPG distribution picture.

Sales have gone from zero in 1956 to more than 4 million gal. per year today. Customers have gone from zero in 1956 to more than 3000 today. And included in those customers, 90 per cent of which are on bulk, are school districts, shopping centers, restaurants, motels, housing subdivisions, and big name industrial concerns.

"We have just started to grow," stated president Frank Grasso, who claims his firm now sells 90 per cent of all LPG distributed in the St. Louis area for commercial use.

Grass "O" Gas is a subsidiary of Grasso Bros. Inc. Although the Grassos are newcomers to the LPG field, they are not new when it comes to the distribution of fuel. The Grasso brothers have kept pace

with acceptance of new and better fuels. In 1936 they entered the coal business. Ten years later in 1946, they entered the fuel oil business. Ten years after that, in 1956, they entered the L. P. gas business.

So the three Grassos, Frank, Joe,

and Tony, came into the LPG industry with a full bag of tricks developed through 20 years of selling fuel, and they have developed a few new tricks during the past two years since adding LPG.

Visiting with president Frank



Grass "O" Gas Inc. president Frank Grasso stands beside one of his nine red, white, and blue sales cars outside of his Lemay (St. Louis), Mo., headquarters.

FUEL OIL
AT GAS RATES
THE CITY'S MOST
CONSIDERED SERVICE
Express 7-3664
Other Gas
Toll Free 7-1988

GRASSO-GRAM

24 HOUR
EMERGENCY SERVICE
For Propane & Oil
FURNACE REPAIRS
Express 7-3664

MR. MARTIN A. BROWER
MANAGING EDITOR
BUTANE PROPANE NEWS
198 SO. ALVARADO ST.
LOS ANGELES 57, CALIF.

ATTENTION ALL FUEL OIL AND PROPANE GAS USERS...NO. 2 FUEL OIL ON KEEP
FULL DELIVERY 14 4/104 PER GALLON PROPANE GAS FOR 1000 GALLON TANKS AT
124 PER GALLON...PROPANE GAS FOR 500 GALLON TANKS AT 12 9/104 PER GAL.
KEEP FULL DELIVERY ASSURES YOU OF CONSTANT SUPPLY...NEVER EMPTY...ASK
ABOUT 9 MONTH PAYMENT PLAN...NO INTEREST...NO GIMMICKS...IF PRESENTLY
USING BOTTLED GAS FOR COOKING SWITCH TO GRASSO-G-GAS AT \$6.00 PER
BOTTLE C.O.D. ... LET GRASSO HANDLE ALL YOUR FURNACE OIL NEEDS AND
RECEIVE TWO BOTTLES OF GAS FREE...PHONE EXPRESS 7-3664 OR RETURN
ENCLOSED CARD...NO OBLIGATION.

GRASSO BROS. OF ILLINOIS

P.S. RENT 500 GALLON L.P. TANK ONLY \$2.50 PER MONTH PLUS NOMINAL
INSTALLATION CHARGE.

Grasso-Grams are jumbo telegram-type mailing pieces which come addressed to the recipient and receive high readership. The message measures 11 x 17 in.

Grasso in St. Louis, we asked him to spill his bag of tricks for the benefit of other LPG dealers across the nation. He obliged. Here is how Grasso does it.

Sales

Selling is the only way to get customers, maintains Frank Grasso, and in order to sell, you must have salesmen. Grasso Bros. employ nine salesmen who travel an area within 35 miles of St. Louis selling LPG, oil, and coal. Each man has a late model red, white, and blue company car with the company name on the sides. Selling effort is supervised by sales manager Jake Kulich and Frank Grasso himself. Salesmen are paid a salary plus a fixed bonus for each new customer they get.

Grasso sells no appliances, so salesmen have only one thing to sell: fuel. Highest commission is paid for a new LPG customer. "We always try to sell a customer on LPG over coal or oil," stated Frank Grasso. We can show him where LPG is a better deal for him, and we prefer LPG customers. We only have to compete with a handful of LPG dealers for an LPG customer, but we have to fight off scores of oil or coal dealers on an oil or coal customer."

New domestic customers are sold in three steps. First, two women are hired to make a telephone survey of a particular geographic area.

The women merely take a telephone book and call every home with a certain telephone exchange. They ask each householder two questions: "What fuel are you presently heating with?" and "Who are you buying your fuel from?" On the basis of the answers received, a mailing list is made up.

Second step is then to send a mailing piece to everyone on the mailing list. In order to assure that the mailing piece will be read, Grasso uses a Grasso-Gram, a giant telegram which receives high readership. It comes in the form of a regular telegram and is personally addressed to the recipient. Stressed in the Grasso-Gram is large quantity storage price, "keep full" service, and a nine month level billing plan with no interest charge.

Third step is a personal call from a Grasso salesman to close the deal with those who express interest.

Major sales

All major sales—big commercial prospects and major housing subdivisions—are handled personally by sales manager Kulich or Frank Grasso himself. Frank closed such deals as Mississippi River Chemical Co.'s 54-home sub-division which adjoins the company's new plant at Selma, Mo., and the 100-home Birchwood Acres sub-division which gets metered LPG from underground tanks.

Both of these sub-divisions were originally scheduled for oil heat. Frank showed the builders, however, that an LPG furnace would cost \$100 less than an oil furnace, that the builder saves \$50 on the cost of a chimney with gas vs. oil, that an LPG installation does not need the \$27 to \$30 pump required for oil, and that the home owner will save \$15 per year on the annual cleanup needed for an oil furnace.

Frank also sold six school districts, a total of 30 schools, on LPG after original school plans called for oil. These schools are all gas. The LPG is sold on a quantity discount by having the school lease six 1000 gal. tanks. Grasso then is able to make 5000 gal. drops right from its transport. Making deliveries of this size and bypassing the bulk plant cuts delivery costs to the bone. (Grasso's transport hauls LPG from the River Terminal, Sulphur Springs, Mo., 17 miles from the plant.)

"We are saving the schools money by meeting the competition of other fuels," Frank remarked.

And big storage doesn't stop there. For example, Grasso has 6000 gal. of storage in a local Howard Johnson motel.

Natural gas no problem

Grasso is selling commercial and industrial customers who are right in the heart of natural gas, too. With natural gas in short supply in the St. Louis area, commercial and industrial customers must accept interruptable service. That means they need oil or LPG standby. But rather than sell standby fuel, Grasso is selling customers on using one fuel—LPG—all year long. The customer then does not have to pay a utility gas hookup rate and can forget oil or other standby problems. By leasing good size storage from Grasso, the customer has a dependable supply of LPG all year at a low delivery rate figure.

An example is Concord Village, a shopping center of 20 stores in easy reach of natural gas. But Concord is all-LPG all year. The stores are metered from two 1000 gal. tanks which are in on a 10-year lease.

Frank Grasso's easiest-to-sell customer was a new 30 store shop-

ping center now being built. It is Grasso Plaza, being built by the Grasso Bros. themselves. Able to choose LPG or oil for their own shopping center, the brothers chose LPG hands down.

Leads for customers large and small come from newspapers, Dodge building reports, heating dealers, and architects. Since Grasso handles no appliances itself, the firm works closely with heating dealers, educating them to recommend and sell LPG.

Advertising

"Before we went into the fuel business, we were farmers," Frank Grasso volunteered. "Business is much like farming. In business you also have to fertilize the ground in order to get crops." And Grasso "O" Gas does fertilize. It spends 3 per cent of its gross sales for advertising. Almost all of it goes for direct mail, television, and billboards.

Every three months, 80,000 pieces of direct mail go out to prospects. To help with this avalanche, Grasso uses a Pitney-Bowes self-stuffing mailing machine.

The company is highly pleased with the results it gets from sponsoring a regular midnight weathercast on television. The weathercast gets a good sized audience, ties in with heating, and being short, simple to stage, and at midnight, the cost is not high.

Billboards are used especially to pre-sell prospects in an area in which a special sales campaign is going on. Several billboards are taken in an area before a big sales push. Then, when the salesman contacts prospects in that area, the prospect usually says: "Yes, I know that company." It sort of gives the prospects the feeling that you have a branch right in their own



Two more 500 gal. tanks roll out of the Grasso yard via Grasso's boom truck and tank trailer. Tanks are leased out, return 10 per cent per year.



Five twin barrel 2000 gal. capacity bulk trucks do the work of 10 by operating two shifts.



Cylinders, formerly painted white to match the Grasso color scheme, are being repainted with aluminum paint for faster drying, longer paint life. Note Grasso emblem.

A real rolling billboard, with fins to make it look like a missile, Grasso's old transport takes on a load at the River Terminal, Sulphur Springs, Mo., 17 miles from the bulk plant.



neighborhood, Frank stated. Frank likes spectaculars best of all. He takes specially large billboards so that they can't be missed. All Grass "O" Gas advertising and promotion is styled after the old time medicine show, Frank remarked.

"Gas Heat Now" is the advertising theme that has been used so far. The company is spending \$30,000 per year promoting that message and the Grass "O" Gas name alone. Because it is using a sizeable amount of money for advertising, the firm makes use of an advertising agency in St. Louis.

Promotion

All Grass "O" Gas bulk trucks will soon be outfitted with a blinking red spotlight on the rear and an amber light on the front. Promotion is the primary reason. When a bulk truck is out filling customer storage at night, Frank explained, those lights will attract the attention of every passing motorist who will look and see that Grass "O" Gas is on the job, day or night.

And when Grasso takes delivery of its new 9000 gal. Master Tank T-1 transport truck, the transport will not only attract attention when it goes down the street, it will also let everyone know that LPG is really modern. The transport will be dressed up to look like a missile. Grasso has ordered it to come complete with a nose cone welded on the front and fins welded on the rear. This will be a step farther than the old transport which had only the fins.

Public relations

Grass "O" Gas' best public relations trick is based on the idea "if you buy from me, then I'll buy from you." Every new customer gets a double post card which asks "Can we be your customer?" It explains that since that person is a customer of Grasso's, Grasso employees would like to be customers of the new LPG-user's firm, if he has one, or the firm he works for or is associated with. The return post card which is attached has space for the customer's name, the name and address of the business with which he is associated, and merchandise or services available from that business.

A brochure is published for all Grasso employees (the firm has 100 employees in all divisions, including oil and coal) entitled "Who Are Your Customers?" This lists all companies which buy from Grasso or which have employees or associates which buy from Grasso. Employees and their families are urged to patronize these firms if at all possible, and to tell the person contacted at that firm "I'm from Grasso."

"Our drivers have to stop at some lunch stand to eat, anyhow," explained Frank. "Why shouldn't they eat at a stand that uses Grass "O" Gas and let the stand operator know it? It soon catches on," he continued, "and our customers like it. It makes every employee and his wife a public relations man for Grasso."

Scientific management

"Our entire operation is run on mathematics," Frank Grasso explained. "This goes for everything from pricing, through tank rental, to gas delivery."

Most of the thousands of bulk tanks Grass "O" Gas has out are leased. Grasso would rather lease them than sell them. "Leased LPG tanks are one of the best investments I know of," Frank remarked.

"We get a 10 per cent per year return on every tank we have out and that is more than you can get from building a supermarket."

Grasso charges \$50 to install a 500 gal. bulk tank, then gets \$2.50 per month on a lease.

Five hundred gallon tanks are leased out to most domestic customers, 1000 gal. or more to commercial and industrial users. Fuel delivery is handled by degree days using a Burroughs Sensimatic Degree Day System. This is set up so that all 500 gal. tanks get 300 gal. at a fill and 1000 gal. tanks get 650 gal. at a fill. Average degree days for the area is 4400 per year.

Grasso does not like to bury tanks but will do so if the customer insists. Frank claims that customers near the center of St. Louis usually want tanks buried, but farther out, where above ground LPG tanks are more common, this is not the case.

Frank Grasso, in addition to being president of the firm, is also in charge of all sales, advertising, and promotion. Tony Grasso, vice president, is in charge of accounting which includes credit and collection. And Joe Grasso, the third brother, holds the title of secretary-treasurer and heads up company operations.

CAN WE BE YOUR CUSTOMER?

We employ approximately 100 people, whose entire families are potential customers of yours. We feel that our company can be of even further service to you by encouraging our employees to patronize our customers whenever possible.

If you are in business on your own account or connected with a business in which our patronage might be profitable to you, please complete the attached card and return to our office.

Grasso Bros., Inc.

GENTLEMEN:

_____ I am in business on my own account.

_____ I am connected with a business.

Name of Company _____

Address of Company _____

Merchandise or services available _____

Signed _____

Address _____

This double postcard is sent to every new customer. From replies, a brochure is made up for Grasso employees so that employees and their wives become customers of Grasso customers.

It is with a deep sense of loss that we report the sudden death of Carl Abell, editor of BUTANE-PROPANE News. Mr. Abell passed away in Glendale, Calif., on Friday, Oct. 17.

His passing will be keenly felt by the entire LPG industry. It was an industry he had come to know and love, and in his last years all his vast energies and enthusiasm were devoted to its welfare. He was its fearless advocate. The contributions he made will leave a deep and significant impression in the years to come.

Mr. Abell's successor as editor will be William Clark, eastern editor of BUTANE-PROPANE News and its affiliate, GAS magazine. Mr. Clark is a veteran of 11 years in both the LPG and gas utility industries. He first joined the staff of GAS in 1946 as assistant editor, and shortly thereafter was named managing editor. In subsequent promotions he became editor of GAS and editorial director of both GAS and BUTANE-PROPANE News.

During 1956 and 1957, Mr. Clark was west coast manager of a public relations firm. In September, 1957, he rejoined BPN and GAS as eastern editor, headquartered in Philadelphia. The eastern third of the country was his "beat."

Mr. Clark will headquarter in Los Angeles.

Accounts receivable

Asked about accounts receivable, Frank explained that they find most tardy customers would like to pay their fuel bill but simply haven't got the money. In such a case, Grasso arranges for a loan for the customer from a finance company. Grasso gets its money, and the customer owes the finance company—which charges proper interest. And such customers usually become deeply indebted to Grasso for arranging the loan.

Grasso spends money on any experiment which might improve its method of scientific management. Frank will listen to any salesman who has a business machine, method, or device of any kind which might speed up routine or cut costs. All office work is done by machine from billing to making copies of papers and reports. Currently he is studying the use of micro-film for keeping records and documents, including leases, safe and out of the way.

"A man builds himself into a habit of doing business and usually won't change," Frank remarked. "We don't intend to do business that way."

Men and equipment

Grass "O" Gas has 18 drivers and service men, and every one is dressed in a clean white uniform with a red, white, and blue insignia.

Bulk delivery is through five 2000 gal. twin barrel trucks. Twin barrel trucks are used so that anyone who sees them will immediately be able to tell they are propane trucks

and not one of Grasso's oil trucks. Grasso Bros. operates 46 trucks of all types including oil and coal, all of which are propane-powered or soon will be. The brothers have their own truck leasing corporation which owns all of the trucks and leases them to Grass "O" Gas. But use of the twin barrel units may end when the firm buys its new larger capacity bulk trucks. Frank realizes the economies possible with a larger payload and is looking at huge T-1 bobtails.

Meanwhile, Grasso's five bulk trucks are doing the work of 10 by operating two shifts each day. Shift hours are 6 a.m. to 2 p.m. and 3 p.m. to 11 p.m. Since domestic customers do not like a truck coming around in the early morning or late evening, commercial tanks are filled during these hours. In all the time that the practice of two shifts has been used, Grasso has received only one complaint.

Two combination bottle and service trucks handle cylinder delivery, which is only 10 per cent of Grasso's customers, and service calls. Many of the cylinder customers are domestic users of natural gas who are on LPG standby. Laclede Natural Gas Co. in St. Louis has an automatic switchover device for domestic use which cuts off natural gas and cuts in LPG at a pre-set temperature (watch for a story in BPN on this operation at a later date).

Grass "O" Gas works with Laclede in this undertaking, installing two cylinders for \$75. Since one installation almost pays for the

cylinders, and the cylinders might be moved up to three times a year, the Grasso brothers are highly pleased with this arrangement.

Carburetion

"It's a funny thing," laughed Frank Grasso. "The bigger an LPG dealer grows, the more he owes. That's why we are proceeding more slowly along some lines. One of these lines is carburetion."

In time, Frank intends to have his own carburetion department. His plans include loan-rental of LPG carburetion equipment, in which the carburetion user would lease the complete conversion equipment instead of buying it.

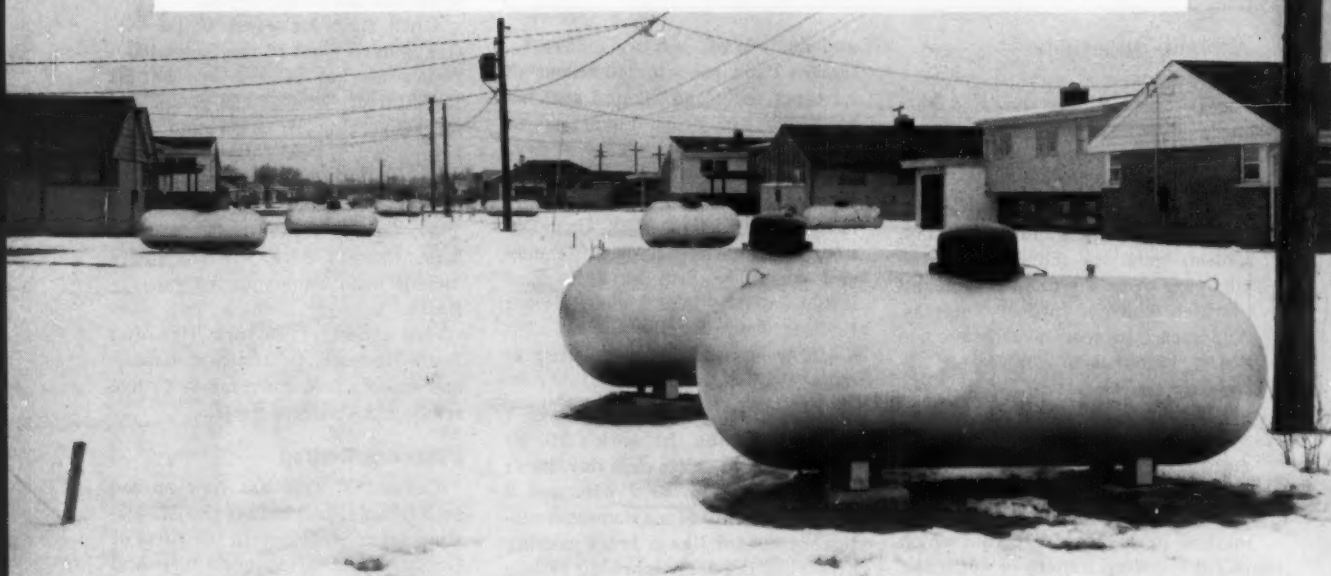
Until then, however, Grass "O" Gas is hardly out of the lush carburetion market offered by the St. Louis area. Grasso sells companies on converting to LPG and then brings in the local Century distributor to sell the conversion equipment and make the conversion. Then Grasso takes over the LPG load. Present fork lift customers include such names as Anheuser-Busch brewery, which has converted a fleet of 15 fork lifts, and Sears-Roebuck. In addition, Grasso has already sold conversions to five ready-mix concrete fleets.

Future unlimited

Grass "O" Gas has now spread into Illinois, just across the Mississippi from St. Louis, in the form of Grasso Bros. of Illinois Inc. And Frank reminded again that the company's growth has just begun. "We are breaking in all young men in all key spots so that they will grow with the firm," Frank stated. "We give them a good salary, incentives, bonuses, and insurance. We make them feel that they are Grass 'O' Gas. In that way they give the customers the kind of service we sell. We think of ourselves as a service institution and we sell our customers on that. We give 'keep full' service 24 hours a day, seven days a week."

With that Frank looked out of the window at his two gleaming white 30,000 gal. storage tanks and grinned when he saw big red letters on one that said "Watch Grasso Grow." "You know," he said, "I've been so busy lately I didn't even see that up there before." ■

Proper tank sizing solves winter problems



By WALTER L. BOND • Sales Manager
Selwyn-Pacific Co.

DID you ever try to run a full-size steam engine from a teakettle? Some L. P. gas dealers try just that in sizing their L. P. gas installations, much to their sorrow and expense.

It is true that the steam from a 1 qt teakettle would be just as hot as that coming from a 500 gal. boiler if both were open to the atmosphere, but the volume of steam would not be as great.

An L. P. gas tank serves as a boiler to supply vapor to the regu-

lator. The amount of liquid that can be vaporized depends on the size of the boiler. A 250 gal. tank cannot vaporize as much gas as a 500 or a 1000 gal. tank.

Two factors control the amount of gas which can be vaporized: (1) temperature and (2) the amount of wetted surface (tank surface actually covered with liquid). The first of these needs little explanation. We all know that the hotter any liquid is, the more vapor it gives off.

The second factor is a little more puzzling. The greater the wetted surface, the more vapor can be produced at any given temperature. This is why water tubes are put in steam boilers. When the tubes are filled with water, they greatly increase the wetted surface area exposed to the flame, thus more water can be converted into steam.

Every L. P. gas dealer has seen a cylinder or tank adequately supplying a gas load when it is full, but frosting up when it gets near the half full mark, with increasing frost and ice as the liquid level falls lower. This is an example of undersizing a storage tank.

Vaporization from cylinders

Table 1 shows the number of square feet of wetted surface area of a 100 lb ICC cylinder and the maximum continuous draw in cubic feet per hour that can be expected for various levels of fullness and at various gas temperatures.

Notice from Table 1 that the amount of gas a cylinder can vaporize at any given temperature is directly proportional to the wetted surface of the cylinder. The same principle applies to ASME containers.

Vaporization from ASME tanks

Based on the assumption that a tank should be refilled about the time it reaches the one-third full level (especially in cold weather), there follows a rule of thumb formula showing what you might expect the tank to vaporize at various temperatures at the *one-third full level*. Naturally, if the tank is more than one-third full, the rate will be higher (more wetted surface), or if less than one-third full, the rate will be lower (less wetted surface).

Table 2 makes use of this formula. To use Table 2, let D equal the diameter of the tank in inches. Let U equal the overall length of the tank in inches. Multiplying D times U times the heat transfer factor for any given temperature, will give you the number of Btu's that will be vaporized at that temperature when the tank is one-third full.

For example, a tank is 40 in. in diameter and 100 in. long. It

TABLE 1. MAXIMUM CONTINUOUS DRAW IN CU FT PER HOUR AT VARIOUS TEMPERATURES IN DEGREES F.

LIBS. OF PROPANE IN CYL.	SQ. FT. OF WETTED SURFACE AREA	-30°	-20°	-10°	0°	10°	20°	30°	40°	50°	60°	70°
100	12.1	14.6	24.9	35.2	45.5	55.7	67.0	77.3	85.8	94.5	111.0	120.0
90	11.05	13.7	22.3	32.6	42.0	51.5	60.9	70.0	80.0	85.8	103.0	111.0
80	10.0	12.0	20.6	29.2	37.8	46.4	54.9	63.5	72.0	80.6	85.8	94.5
70	8.95	11.2	18.9	25.7	33.5	41.3	48.9	56.6	64.0	72.0	79.6	85.8
60	7.90	9.4	16.3	23.2	30.0	36.9	43.6	50.0	56.0	63.5	70.4	77.0
50	6.88	8.6	13.7	19.7	25.8	31.8	37.8	43.6	50.0	55.8	61.7	67.0
40	5.82	7.0	12.0	17.2	22.3	26.8	31.7	36.9	42.0	47.2	52.4	56.6
30	4.80	5.8	10.3	13.7	18.0	22.3	26.6	30.9	34.0	38.6	43.0	47.2
20	3.77	4.6	7.7	11.2	14.6	17.3	20.6	24.0	27.5	30.0	33.4	36.9
10	2.73	3.3	5.6	8.0	10.3	12.9	15.4	17.3	19.7	22.3	24.0	26.6

TABLE 2. VAPORIZATION FORMULA FOR ASME TANKS AT VARIOUS TEMPERATURES*
(In Btu's of Vapor)

Temp. of Liquid (°F)	Diameter (In.)	Overall Length (In.)	Heat Transfer Factor
70	D	x U	235
60	D	x U	214
50	D	x U	193
40	D	x U	172
30	D	x U	152
20	D	x U	131
10	D	x U	110
0	D	x U	90
-10	D	x U	70
-20	D	x U	48
-30	D	x U	28

*Based on tank one-third full

is one-third full. How much propane will it vaporize at 30°F? Answer: 40 x 100 x 152 equals 608,000 Btu. What if the temperature was -20°F? Then: 40 x 100 x 48 equals 192,000 Btu.

The heat transfer factor used should be determined by the coldest winter temperature to which the system will be subjected. Suppose you were figuring this tank for the vaporization of a continuous 350,000 Btu load. In California or Florida you might estimate your lowest winter temperature to be 20°F, thus using a transfer factor of 152. In Minnesota or Canada a -20°F temperature can be expected, so a transfer factor of 48 is applied.

A chain reaction

Undersized tanks cause excessive refrigeration. Excessive refrigeration causes low tank pressures. Low tank pressures cause reduced regulator pressures (especially in single stage installations).

Low regulator pressures cause pilot flame failures and inefficient burner operation. Pilot failures and inefficient burners cause service

calls and dissatisfied customers.

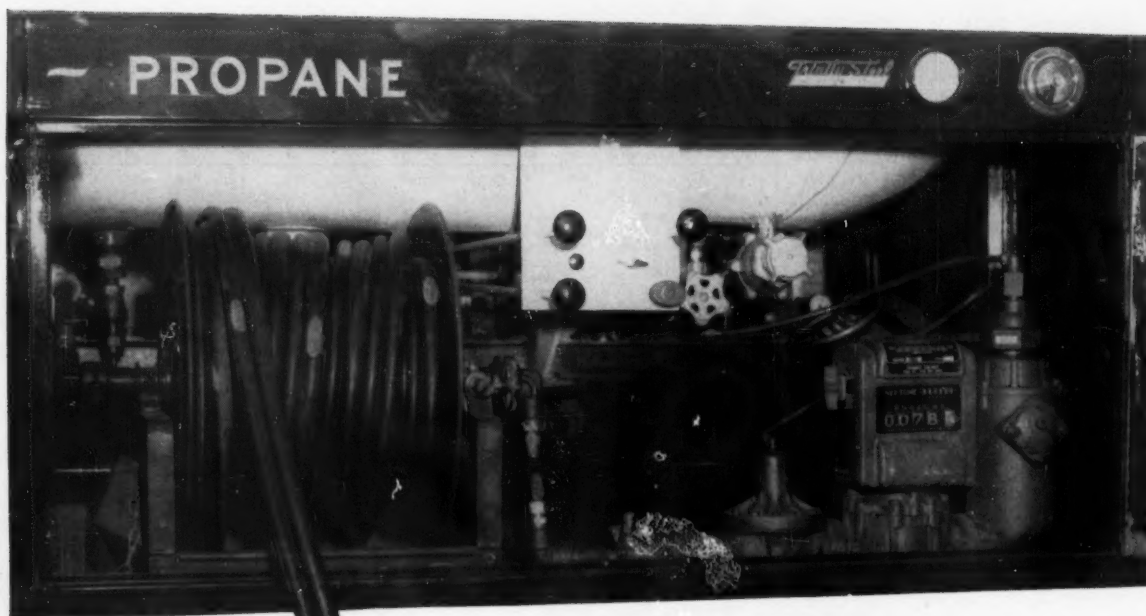
Service calls and dissatisfied customers cut into profits. (If you can, let me know—I sure have been looking for a business like that.)

The storage advantage

Another big reason why you should not figure your tank size to the minimum is that it represents valuable additional storage. It (1) cuts down on the number of trips your bobtail has to make and (2) reduces the worry of running out of gas during the winter months, when gas is short and demands are high.

Don't you wish all of the 250 gal. tanks you have out were 500's and all the 500's were 1000's? You could start filling up in the late summer and early fall and start the winter out with plenty of gas and less worry. And it cuts down on the amount of plant storage you need.

Think of this when you sell an LPG installation. Size the tank large enough and give both yourself and your customer a better deal. ■



PART TWO

**This is the second and concluding part.
Part one appeared in September BPN.**

By LAWRENCE W. SMITH, M.E., President
Smith Precision Products Co.

You can pump faster at less cost

Unit 7—Tank back pressure.

Considerable time and study has been spent in making up *Table 7*, which attempts to show the amount of back pressure that is developed in a consumer tank when it is filled without the use of an equalizing (vapor return) line. If an equalizing connection is used, Unit 7 can be neglected, of course, as any back pressure developed will be dissipated.

Back pressure values given in *Table 7* are found to vary greatly depending upon the temperature of the day and the type of L. P. gas handled. However, they are the

same for *any size tank* from 20-lb cylinders on up, that are filled from almost empty up to safe level.

The back pressure built up when filling tanks without an equalizing line is one of the most important units that slows delivery rates, particularly with propane in the summer months. From the standpoint of fastest pumping only, it would be desirable to use an equalizing line to reduce this back pressure, and some L. P. gas dealers are doing this as a regular practice.

However, it is recognized by all metering authorities that the vapor returned through an equalizing line

causes inaccurate metering, as it is not accounted for in the measurement of fuel delivered. The inaccuracy involved through the loss to the customer of vapor returned through an equalizing line, may run as high as 5 per cent (one dollar out of every \$20 worth of fuel) when propane is delivered on a hot day. Of course, in the interest of good customer relations and common business honesty, such a large error cannot be tolerated.

There has recently been considerable agitation involving weights and measures people from all over the United States, the National

Bureau of Standards, the LPGA, etc., and it appears more and more clear that regardless of whether or not laws are enforced that outlaw the equalizing (vapor return) line, delivery trucks equipped with proper pump and piping that can buck the necessary pressures, are performing a valuable service by assuring customers of accurate measurement in their deliveries. Trucks incapable of filling consumer tanks without making a vapor return connection should be remodeled or replaced in the near future.

Spray and jet filling

So-called "spray-fill" filler valves for consumer tanks have been made available in recent years. Also, "vapor space filling," sometimes called "jet filling," has become more popular with progressive L. P. gas dealers. The speedup in delivery rates that these new ideas allow in systems not using vapor return lines is almost unbelievable unless one understands the fundamental principles. The following explanation is the best that we have, and it is included as a matter of interest because of the increasing importance of the subject.

(*) When filling any tank without an equalizing (vapor return) line, whether it is a 100-lb cylinder or a larger storage tank, the vapor originally in the tank must be collapsed into liquid during the filling operation. This "collapse" takes extra pressure to accomplish. As when vapor is compressed into liquid, it generates a considerable amount of heat. The amount of heat given off varies with the temperature of the liquid when it collapses.

Now, during a fast filling operation there is not enough time for much of this heat to be radiated away through tank walls to the outside. Hence, the temperature of the vapor space in the tank increases very rapidly, and this of course brings on an increase in pressure. This pressure increase, which we call back pressure, slows delivery.

Note, we have been talking about the temperature in the vapor space. The liquid in the tank stays cool, as liquids are practically incompressible, and there is not enough time for much of the heat in the

vapor to be transmitted to it.

When an ordinary 20 or 100-lb cylinder is filled, the fast-moving stream of incoming liquid hits the liquid level quite violently. This causes much splashing and turbulence, which effectively distributes the heat in the vapor space into the cooler liquid beneath. Due to this mixing, back pressure is kept down, as the heat is not concentrated in the vapor, but is distributed uniformly through the entire cylinder.

In larger consumer tanks, the opposite has been true. In most of these, as well as in some small fuel tanks used in fork lift trucks and other motor vehicles, dip tubes have been connected to the inside ends of the filler valves, and the incoming liquid has entered under the liquid level at the bottom of the tank, where it cannot do much splashing. The cool liquid in such tanks does not mix with the hot vapor being compressed in the vapor space, and a high back pressure is built up. (**)

Many L. P. gas dealers have small tanks to fill that have dip tubes, and have found the filling operation most difficult. If you have some of these, the next time one is being filled, try rocking the tank to make a little internal splashing. You will be amazed at how much easier it is to fill the tank in this way. Fuel tanks on automobiles and small trucks equipped with filler valves having dip tubes, can be filled easier also, if one jumps upon the bumper or running board and shakes the vehicle just a little. This is proof of the sense in the previous explanation.

Large consumer tanks, of course, cannot be shaken during the filling operation, so several methods have recently been devised to make these

tanks act like cylinders, where entering liquid can splash through the vapor space instead of coming in at the bottom. Such new methods must take into account the fact that some means must always be provided for unloading the tank in case it ever has to be moved, in accordance with legalized safety requirements. Three of the new vapor space filling methods are:

1. Spray-fill filler valves having holes or slots at their sides just inside the tank, and arranged so that incoming liquid sprays out of these holes, through the vapor space. Such filler valves can have dip tubes, but these are used only for liquid withdrawal.

2. Use two conventional filler valves at the top of the tank, one having a dip tube for liquid withdrawal only. The other, with no dip tube, is used for filling only. The entering liquid doesn't spray out sideways, but its heavy, fast-moving stream hits the liquid level quite violently and creates enough splashing and turbulence for almost equally effective mixing.

3. Use one conventional filler valve in the top of the tank, having no dip tube. Fill through this, and have a second valve for liquid withdrawal in an outlet at the bottom of the tank. This is perhaps the best of the three methods for accomplishing reduction of back pressure in the filling operation. By having a bottom outlet, unloading can be done easier and quicker than from a top connection with dip tube. Also, tanks equipped with bottom outlets are better adapted for connection to hand pumps or small inexpensive power pumps, should your customers ever desire to fill tractor or motor vehicle fuel tanks, trailer bottles, etc., from

TABLE 7. AMOUNT OF BACK PRESSURE BUILD UP IN TANKS FILLED WITHOUT THE USE OF EQUALIZING CONNECTIONS

Type of Fuel	Temperature (°F)	Back Pressure, psi	
		With New Vapor-Space Filling	With Old-Style Dip Tube Filler Valves
Propane	100°	31.1	124.4
Propane	70°	16.9	67.6
Propane	40°	8.9	35.5
Propane	10°	4.1	16.3
Propane	-20°	1.6	6.4
Butane	100°	3.8	15.1
Butane	70°	1.8	7.2
Butane	40°	0.8	3.1

their own large L. P. gas tanks.

Through the use of these methods, back pressure in the tank being filled is reduced to (*) one-fourth (**) of what would be expected from the use of old style filler valves where entering liquid runs through dip tubes.

(*) To illustrate this wonderful improvement, Table 7 shows the theoretical back pressure built up in tanks carrying propane or butane at various temperatures using either old style filler valves with dip tubes, or any of the three vapor-space filling methods described above.

Distributors of L. P. gas mixtures can estimate back pressure by averaging figures in Table 7 for straight butane and straight propane, using the following formula:

$$\text{BACK PRESSURE} = \frac{\% P \times \text{bpP} + \% B \times \text{bpB}}{100}$$

where % P = percent propane in mix, % B = percent butane in mix, bpP = back pressure given for propane in Table 7, bpB = back pressure given for butane in the table. Thus, for a 60 percent propane—40 percent butane mix, temperature 70°, with old style dip tube filler valves, actual back pressure is $60 \times 67.6 + 40 \times 7.2$, divided by 100, which works out to about 43 psi. (**)

Two popular misunderstandings about vapor space filling can be easily set straight as follows: 1. If

you use an equalizing line, vapor space filling won't help because the back pressure is eliminated by the vapor return. 2. Vapor space filling helps very little if you are handling straight or nearly straight butane; back pressures built up with butane are as nothing compared to those built up with propane, even on hot days.

Questions on delivery rates

The figures tabulated in the preceding tables now make it possible to estimate and greatly improve delivery rates, as the following questions and answers will show.

QUESTION 1: I hate to ask an embarrassing question but I think something has to be done about the sad situation on our delivery truck. We have one of your 50 gpm pumps and piping exactly as shown in Fig. A. The meter is an older 1 1/4 in. but it is in good condition, having been recently overhauled. It has an old style, factory set, spring-loaded back pressure valve. Then we have two hose valves like you show, 3/4-in. globes, 50 ft of 3/4-in. delivery hose, and most of the tanks we fill have old style 1 1/4-in. dip tube filler valves. The bypass valve was originally set to 75 lb like you recommend, but we had to screw it down a lot even to get only 20 gpm delivery. This is mighty little for a 50 gpm pump. The truck has never done any better. What is wrong with your pump? Check this delivery and show me if you

can, how these tables can possibly help us any.

ANSWER 1: First, refer to the tables and add up the values for pressure drop that each unit in the system requires. We have:

1. Pressure drop of meter (Table 1) at 20 gpm 1.4 psi
2. Pressure drop of back pressure valve, spring-loaded type, factory set, is probably 15.0 psi
3. Pressure drop of first hose valve, 3/4 in. (Table 3) at 20 gpm 2.0 psi
4. Pressure drop of 50 ft length of hose, 3/4 in. (Table 4) at 20 gpm 14.4 psi
5. Pressure drop of second hose valve, 3/4 in. (Table 3) at 20 gpm 2.0 psi
6. Pressure drop of filler valve, old style, 1 1/4 in. (Table 6) at 20 gpm 4.5 psi
7. Back pressure of tank, liquid space filling (Table 7), assuming temperature 70°, propane 67.6 psi

Total pressure drop 106.9 psi

Since the calculated total pressure drop of 106.9 psi is considerably higher than our recommended 75 lb bypass valve setting, this corresponds with the facts as you have described them, and at 20 gpm you are really getting more delivery than figures based on recommended pressures would say you should. You have no cause for disappointment; this is the best you can do in the setup you have.

QUESTION 2: But don't you see, this slow delivery rate is costing us money. I should figure truck time at \$10 per hour, and it costs me \$5 to pump off 600 gal. of fuel! Man, that's nearly 1 cent per gallon just for pump-off time! We have to do better than that to stay in business these days. And, you still haven't told me why we can't do better with a big pump that after all is rated at 50 gpm.

ANSWER 2: You can do much, much better by making a few simple changes in the setup. Remember, when handling L. P. gas, no make, type, or size of pump will ever do any better than the piping installation will allow it to do. The greatest improvement you can make, is to replace those old style filler valves having dip tubes leading to the liquid space of the tanks you fill with new style filler valves using vapor space filling.

QUESTION 3: Maybe so, but this costs money. I have to buy the new valves which may cost around

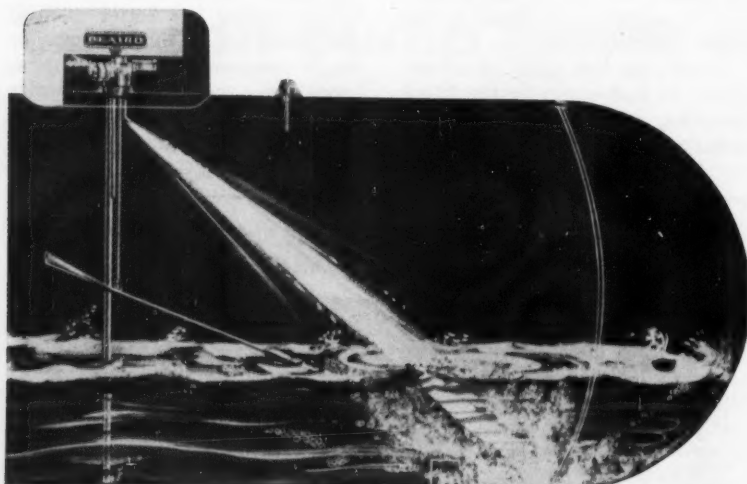


Diagram courtesy J. B. Beaird Co., Inc.

The speedup in L. P. gas delivery allowed by spray and jet filling of systems not using vapor return lines is almost unbelievable. One of these filling methods is illustrated above.

Reduce restrictions . . . Take off your trucks' spring-loaded back pressure valves and replace them with diaphragm types

\$5 apiece, we have to unload the tanks, blow the pressure off, and pay a service man to install them. You will have to show a big saving through delivery speedup to justify this kind of expense.

ANSWER 3: Let's go through the same kind of a calculation and see how much pump pressure you would require to overcome total pressure drop at the maximum flow rate of your 1¼-in. meter, 30 gpm. In answering this question, the main purpose of this article will be clearly demonstrated. Assuming this improved delivery rate of 30 gpm, and running through the tables again, we have:

1. Pressure drop of meter (Table 1) at 30 gpm	3.1 psi
2. Pressure drop of back pressure valve, same as before	15.0 psi
3. Pressure drop of first hose valve, ¾ in. (Table 3) at 30 gpm	4.5 psi
4. Pressure drop of hose, ¾ in. (Table 4) at 30 gpm	31.0 psi
5. Pressure drop of second hose valve, ¾ in. (Table 3) at 30 gpm	4.5 psi
6. Pressure drop of new style filler valve, 1¼ in. (Table 6) at 30 gpm	2.5 psi
7. Back pressure of tank using vapor space filling (Table 7), same temperature, 70° propane	16.9 psi
Total pressure drop	77.5 psi

Note how by changing to new type filler valves and using vapor space filling, making no other changes of any kind, delivery rate can be increased to 30 gpm at a lower total pressure drop than was absorbed using old style filler valves with liquid space filling, delivering only 20 gpm. This will be easier on the pump, making it last longer, as well as increasing delivery rate 50 percent.

QUESTION 4: This is more like it! We run at maximum meter capacity, and I guess it is unfair to ask for more than that. Now it costs only \$3.33 to pump 600 gal. We save \$1.67 on every tank we fill, and this is really O.K. Of course, it will be a problem to change to vapor space filling on our old tanks. I'll surely see to it that new tanks

come in this way. I wonder if you can't show me some changes we can make to the truck piping that will do as well, but not require the use of vapor space filling on our present tanks?

ANSWER 4: Yes, we can improve upon the truck piping and do almost as well. We would recommend taking off the spring-loaded back pressure valve and replacing it with one of the diaphragm type, which are available from several companies as separate items. Then, we think you should use 1-in. hose and hose valves instead of ¾ in. Running through the tables, we have:

1. Pressure drop of meter (Table 1) at 30 gpm	3.1 psi
2. Pressure drop of new back pressure valve, diaphragm type	0.0 psi
3. Pressure drop of first hose valve, 1 in. (Table 3) at 30 gpm	2.8 psi
4. Pressure drop of new hose, 1 in. (Table 4) at 30 gpm	7.4 psi
5. Pressure drop of second hose valve, 1 in. (Table 3) at 30 gpm	2.8 psi
6. Pressure drop of filler valve, old style, 1¼ in. (Table 6) at 30 gpm	10.0 psi
7. Back pressure of tank, liquid space filling (Table 7), still 70° temperature, propane	67.6 psi
Total pressure drop	93.7 psi

Now you see, by making these few inexpensive recommended changes, even keeping old style filler valves in tanks and continuing to use liquid space dip tube filling, you can still get a delivery rate of 30 gpm (50 percent increase) at a lower total pressure drop of 93.7 psi. This compares to a pressure of 106.9 psi without making these changes, at a flow rate of only 20 gpm. Using vapor space filling is the most effective thing you can do to lower pumping pressures and speed delivery rates, but you can easily do a lot in these other ways.

QUESTION 5: I told you we would have our new tanks equipped for vapor space filling, so show me what we can do by making these changes on the truck as well as using vapor space filling. With

both improvements, we should really be in good shape.

ANSWER 5: Right! This is so good it will surprise you.

1. Pressure drop of meter, 1¼ in. (Table 1) at 30 gpm	3.1 psi
2. Pressure drop of new back pressure valve, diaphragm-type	0.0 psi
3. Pressure drop of first hose valve, 1 in. (Table 3) at 30 gpm	2.8 psi
4. Pressure drop of new hose, 1 in. (Table 4) at 30 gpm	7.4 psi
5. Pressure drop of second hose valve, 1 in. (Table 3) at 30 gpm	2.8 psi
6. Pressure drop of new style filler valve, 1¼ in. (Table 6) at 30 gpm	2.5 psi
7. Back pressure of tank, vapor space filling (Table 7) same temperature, 70° propane	16.9 psi
Total pressure drop	35.5 psi

There you are, a total pressure requirement of less than 40 psi if everything is done, and the higher flow rate of 30 gpm as well. In this case, the low pressures will make your pump last at least twice as long and it will run quieter, so you have an extra bonus.

WARNING: THE READER MUST NOT DRAW THE CONCLUSION FROM THESE EXAMPLES THAT THE SAME CHANGES ON HIS OWN TRUCKS WILL ACCOMPLISH THE SAME RESULTS. EACH TRUCK IS EQUIPPED DIFFERENTLY, AND EACH MUST BE FIGURED INDIVIDUALLY. FOLLOW THE EXAMPLES USING DATA ON UNIT SIZES FROM YOUR OWN TRUCKS, TO CALCULATE YOUR INDIVIDUAL PROBLEMS.

QUESTION 6: You recommend a bypass valve setting of 75 psi for your pumps, don't you? This means your pumps should be able to take care of total pressure drops up to 75 psi, doesn't it? If we make all the improvements to our delivery system listed in your Answer 5, and set the bypass to 75 psi instead of 40 psi, this would speed delivery way above 30 gpm wouldn't it?

ANSWER 6: Yes, delivery would be considerably increased again,

Reduce restrictions . . . By making improvements in plumbing, fuel delivery rates of 70 to 80 gpm are feasible and safe

but remember you have a 1¼-in. meter and its maximum speed is supposed to be 30 gpm. If you want to overspeed the meter and take your chances on inaccurate delivery (which would be inaccurate on the side where you would deliver more fuel than was registered and could be charged for), and on wearing out the meter fast (opening clearances of metering parts and passing out even more free fuel to your customers), you could set the bypass valve higher.

QUESTION 7: Suppose we install a larger meter. Would this be O.K.? And then could we get faster delivery rates by using a 75 psi bypass valve setting?

ANSWER 7: You could put in a 1½-in. meter and with all the improvements we have discovered so far, let's go through the figures once again and see what total back pressure would be at a delivery rate of 40 gpm.

1. Pressure drop of new meter, 1½ in. (Table 1), at 40 gpm	4.1 psi
2. New meter would come equipped with diaphragm-type back pressure valve	0.0 psi
3. Pressure drop of first hose valve 1 in. (Table 3) at 40 gpm	4.4 psi
4. Pressure drop of delivery hose, 1 in. (Table 4) at 40 gpm	12.6 psi
5. Pressure drop of second hose valve, 1 in. (Table 3) at 40 gpm	4.4 psi
6. Pressure drop of new style filler valve, 1¼ in. (Table 6) at 40 gpm	4.4 psi
7. Back pressure of tank, vapor space filling (Table 7), same temperature, 70°, propane	16.9 psi
Total pressure drop	46.8 psi

QUESTION 8: You have shown how to double our delivery rates, cutting pump-off costs in half. Since you still have us working far below the recommended 75 psi bypass setting, why can't we figure on still higher filling rates like 50 or 60 gpm? The new 1½-in. meter could take it, couldn't it?

ANSWER 8: Now we get into a different problem, as you wouldn't have enough pump capacity for 50 or 60 gpm deliveries. Your pump

rating of 50 gpm is based only upon what it will do against no pressure drop or back pressure, as in loading or unloading through larger sized discharge lines using equalizing connection. On the average, the delivery capacity of an L. P. gas pump reduces around 3 percent for every 10 psi extra pressure it has to buck. Figures similar to those worked out in previous answers, show that a 50 gpm delivery through the system we have worked out for you would develop a total pressure drop of 62.5 psi. This would reduce the pump capacity to 41 gpm, which is all you could get through it without overspeeding.

QUESTION 9: Let's put on a bigger pump. Could we get 50 or 60 gpm in this system then?

ANSWER 9: Yes, a larger 100 gpm rated pump, provided it was properly piped on the inlet side, probably using 3-in. valves and fittings instead of the 2 in. or 2½-in. sizes that you no doubt have now, could easily and safely push 50 or even 60 gpm through the system. As we said in Answer 8, the total pressure drop at a 50 gpm delivery would be 62.5 psi.

At 60 gpm, it would be 81.5 psi in the same discharge line, or only 62.9 psi if you changed from 1-in. hose and hose valves to 1¼-in. hose and hose valves. And by using even larger delivery hose and hose valves, say 1½ in., and a still larger meter, delivery rates of 70 to 80 gpm would be feasible, still keeping pumping differential pressure a comfortable 75 psi.

QUESTION 10: You keep recommending 75 psi pumping pressures, yet I see some makes of pumps advertised as being good up to 125 psi, and have seen one advertised at up to 300 psi. Can we use these pumps to the higher pressures?

ANSWER 10: There is a matter of safety involved which, of course, should be a prime consideration of the user of any kind of L. P. gas equipment. In the standard for L. P. gas pumps written by Underwriters' Laboratories Inc., pump-

ing differentials as high as 125 psi are allowed. Our own pumps, as well as many other makes, can generate these pressures and, of course, higher pressures speed deliveries. But, we advise *caution* with high pressures because of safety.

What happens when you fill propane tanks in the summertime? At 100 deg., the pressure in the consumer tanks you fill starts out at 175 psi, and you know the tank is approved only for 250 psi. A 75 psi pumping pressure, added to 175 psi original tank pressure, equals 250 psi, the maximum safe pressure for the tank. Any more pump pressure than this may cause the relief valve in the tank being filled to blow.

In addition, many meters are rated only for 250 psi total pressure and are overloaded at higher pressures. And all other units in the pump discharge line will be strained. Since it is easy to see from our discussions that fast deliveries *can* be made at the lower, safer total pressures, we can't restate too strongly our recommendation that pump pressures should be limited to 75 psi on the basis of safety.

Of course, there are exceptions to every rule. If you *always* work in a cooler climate, or *never* handle straight propane in the hottest months, pumping pressures may be increased accordingly, but safely **ONLY IF YOU ARE CAREFUL TO BE SURE THAT THE MAXIMUM PRESSURE OF YOUR FUEL DUE TO THE HIGHEST TEMPERATURE IN YOUR AREA, ADDED TO THE BY-PASS VALVE SETTING, NEVER EXCEEDS THE PRESSURE SETTING OF RELIEF VALVES ON THE TANKS YOU FILL.** ■

The author wishes to acknowledge with thanks the cooperation of representatives of the Neptune Meter Co., Bastian-Blessing Co., Selwyn-Pacific Co. and Hewitt-Robins Inc.; Carl Abell, editor, BUTANE-PROPANE News; and many others who have contributed time, technical information, and the incentives necessary to create this article.



Sales Training Program



PART 15

How to sell gas incinerators

By CARL ABELL • Editor

THERE is no market for gas incinerators in our trade area."

This chorus should be set to music. We hear it almost every time we make inquiries in the appliance department of an LPG dealership. Becoming irked, we made a personal investigation of a typical community. From the leading appliance stores and plumbing shops we learned that their fastest moving appliance is now the electric garbage disposer. This is true in the country as well as in the city. In the classified ads of the community's leading newspaper we observed that the two features most emphasized in apartment rental ads were swimming pools and garbage disposers. In the Sunday real estate section of that same paper we noted that seven of the eight ads of housing tracts listed electric garbage disposers among the "built-ins." It almost appears that nothing can be rented or sold unless it has one.

So the electric garbage disposer, which your firm does not sell, is today's big sensation in the appliance field. How about that? Right away it proves two things: that housewives do not want to save up their garbage for collection day (or bury it in the back yard), and that people will spend money to get rid of waste food before it becomes obnoxious. How much money? About two thirds as much as it would cost to install a gas-fired incinerator.

And now put this factor into that picture. The electric disposer

only gets rid of part of the garbage. It will not do anything about large bones, peach pits, and other heavy materials that will not go through the grinder. It will not give any help whatever in disposing of all the discarded packaging materials, newspapers, discarded mail, old shoes, rags and other combustible junk that accumulates in every household, or the plant trimmings, leaves and other discarded materials from gardens.

The modern gas-fired incinerator reduces all of these waste organic materials, wet or dry, into a small amount of fine gray ash, which may be sent out in an empty tomato can with the other cans and

bottles. These are almost the only waste materials that the modern incinerator will not remove from the household with less effort than any other means of disposal.

The entire operation is convenient, economical, odorless and smokeless. Nobody has to carry the garbage or trash out to the street, wash out a stinking garbage can, or go out in bad weather to fire up a backyard trash burner.

The incinerator can be installed in the basement, service porch, or even right in the kitchen. You put your garbage and trash in the hopper, turn a dial, and forget it. The clean blue flame does the rest, and stops when the job is done.



Garbage, paper, rags, rubber—regardless of the type of trash, it can be disposed of quickly and easily, and without smoke or odors, with the new L. P. gas incinerators. The fuel cost? As much as a gas range for the same home.

Demand can be developed

So we must make a little revision of that opening statement. The only reason there is no market for gas-fired incinerators in your trade area is because the demand has never been developed. It can be developed, and it can be big.

From the standpoint of the appliance salesman, here is another appliance to sell in quantity in a virgin field. There are no traders to dilute the commissions.

From the standpoint of the company, here is another worthwhile and steady year-round gas load that produces just about as much gallonage as the range in that same house—if the range is fed through a pipe instead of a wire. And for the all-electric home it is the world's best foot-in-the-door appliance because the electric industry does not offer a competitive unit at any price that will do the same job.

Some salesmen have the idea that the domestic incinerator can be sold only in expensive suburban homes, but that in rural homes where space is no problem, the need for them does not exist. Nothing could be farther from the truth. People with nice country homes always have the desire and generally have the means to equip them with all the conveniences enjoyed by their city cousins. They have electricity, radio, television, automatic washers, heating systems, air conditioning, electric dishwashers, power lawn mowers—an almost unlimited range of gadgetry to live with less labor

and to make life more enjoyable.

They have at least as much garbage and trash as those who live in or close to cities, and their means of disposing of these waste materials is not nearly as convenient. They can not put the stuff in cans and put it out for the municipal collectors. The garbage is fed to animals, buried, or both—and in all kinds of weather. The combustible trash is burned in an open pile, an old oil drum, or in rare cases in an obsolete outdoor incinerator. In any case there is a smoke nuisance, ashes may blow into the house or all over the laundry.

The oil drums and incinerators only do a partial job, and the remaining half-burned residue must be cleaned out, carted to a field, or buried in the garden. This is dirty work, and the charred rubbish is not good for plants. The need for the automatic smokeless and odorless incinerator is even greater in the country than in the city.

In addition to the need for improved disposal of domestic wastes, there is a big potential market for incinerators of commercial sizes in dozens of businesses and institutions in every trade territory. They are needed by motels, restaurants, factories, processing plants, schools, hospitals, roadside offices, poultry and stock farms—wherever there is a problem of getting rid of waste materials in an inoffensive and sanitary manner.

The key to sales

The key to selling the modern

gas-fired incinerator is that it makes complete and sanitary disposal without producing smoke, odor or flying ashes. This can not be done with any of the old-type means of disposal. Stop and think about the problem of getting rid of the waste materials at a small town doctor's office or clinic, and you will get the picture. Surgical dressings consist mostly of cotton cloth, rubber adhesives and plastic films, sometimes saturated with blood and occasionally polluted with disease germs. Much of the material is too damp to burn in an incinerator that uses only waste materials for fuel. But the gas-fired incinerator dries the stuff out and burns it completely, without smoke or odor.

This will not be clear to your prospect until he knows how the smokeless and odorless incinerator works. The material to be destroyed is dumped into a closed chamber that is equipped with gas burners. By turning a knob, the fire is started. The dry material ignites and burns. The wet material is dehydrated by the heat from the burners and the burning waste. When it is sufficiently dehydrated, it also ignites and burns.

The smoke and ashes do not pass immediately to the atmosphere. Instead, they detour through an "afterburner" where, accompanied by additional air, they pass through a second gas flame. In some incinerators there is a second afterburner chamber.

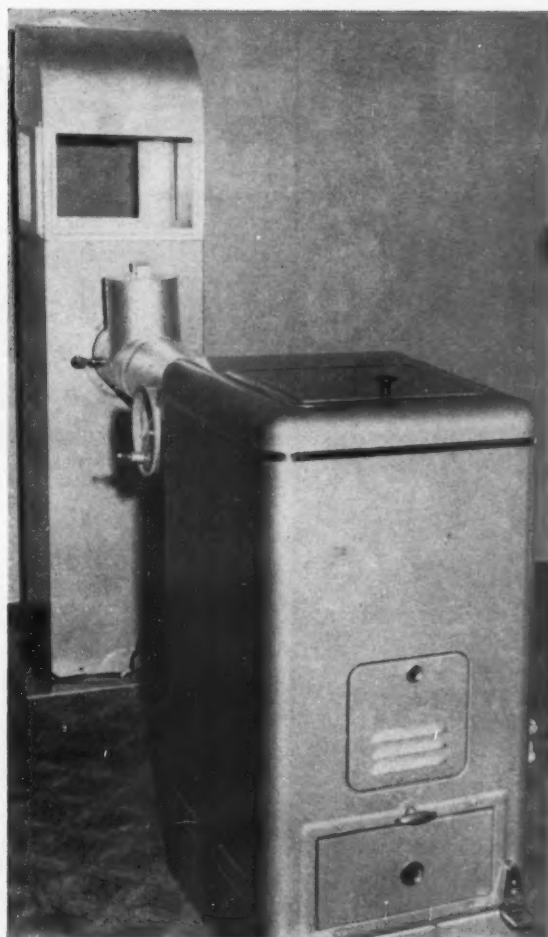
Incomplete combustion

The combustion products coming from an open fire or a single-chamber incinerator are visible and give off unpleasant odors because their combustion was not complete. Any material, either solid or liquid, must be vaporized before it can burn. The solids and liquids must reach certain high temperatures (different for most materials), before the quick oxidation that we call "burning" can take place. If this distilled-off vapor cools below its ignition temperature before it can combine with enough oxygen to produce complete combustion, partial combustion results. This is evidenced by smoke and odors, which are



The principle of the new smokeless, odorless LPG incinerators is the same as the old cigarette and match trick. The smoke and odors are literally burned.

Here is how a demonstration unit can be set up in the showroom. Prospective customers can stick their heads right in to sniff the smokeless, odorless air.



merely unburned vapors passing into the atmosphere.

Everyone is familiar with what happens when we rake up the autumn leaves and burn them in a pile. If we can get enough dry leaves together to make a brisk fire, there is very little smoke and almost no odor. But if we pile a lot of damp leaves on this fire, the flames dies down and a large amount of strong pungent smoke comes out of the pile. If we can fan enough extra air into the pile, the flame springs up and the amount of smoke is greatly reduced. We also notice that the fire gives off a great deal more heat.

What has actually happened is that the extra heat produced by our forced draft has kept the escaping combustible vapors above their ignition temperature until they have mixed with more oxygen coming in from the air that flows up into the flame. The result is

more flame and less smoke. If we can put in enough air and heat, we can burn all of the fuel vapors coming out of the pile. The end result is almost pure carbon dioxide and water vapor, both of which are invisible and odorless. This is exactly the condition that is produced in the afterburners of the modern gas-fired smokeless and odorless incinerator.

Demonstration

A simple and convincing demonstration of this can be made by lighting a cigarette, calling attention to the ribbon of smoke that rises from the smoldering tip, and then holding a lighted match in the smoke stream. No smoke rises above the match—it is all consumed in the flame.

For the person who wants a more complete explanation of the operating principle of the gas incinerator, the following explanation will give a clear picture: In

order to get perfect burning without smoke or odor, three "T's" are required—temperature, turbulence and time. These, combined with flame and plenty of air, get the job done. The temperature is supplied by gas burners operating in both the primary and secondary chambers. The fire in the first chamber converts the charge into combustible gases and ash. Some of these gases burn in the first chamber, but especially when working on a wet or damp charge, some of the gaseous products cool off so combustion is incomplete.

So far, the result is just like an open fire, or like the kind of incinerators that were used before the smokeless incinerator was invented—there is a lot of smoke heading for the atmosphere. This smoke is then conducted through baffles to the second chamber, and along with it goes a stream of fresh air. Along the route, due to turbulence and time, a thorough mixture of smoke and air takes place. This mixture passes through the flame in the second chamber, and this provides the temperature necessary to ignite and complete the combustion of the escaping vapors.

Automatic timer

Time enters into the picture in another way. The flames must be kept burning long enough to consume the charge. Nobody wants to stand over the incinerator to turn off the burners when the charge is consumed. That would be even more inconvenient than waiting around to turn off the motor and the water in operating a garbage grinder—something that has never been successfully automated. The incinerator has an automatic timer that can be set for any pre-selected burning time.

The ordinary procedure is to dump the trash and waste food materials into the primary chamber from time to time until the hopper is filled to a certain level. With a standard amount accumulated, and with average composition of wet and dry materials, incineration will be complete in a standard time. If the accumulation is unusually wet, more time will be required. If unusually dry,

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Look over Ford's '59 models and judge for yourself. Pickup? Ford's big Styleside Six is a real penny-pincher. City delivery? See Ford's Parcel Delivery models and the new Courier. Tandem Axle heavy-weights? Ford has 'em . . . with tilt cabs, too! In all, there're over 370 models, to provide you with the right truck for your job. See your Ford Dealer and put your best foot Ford-ward!

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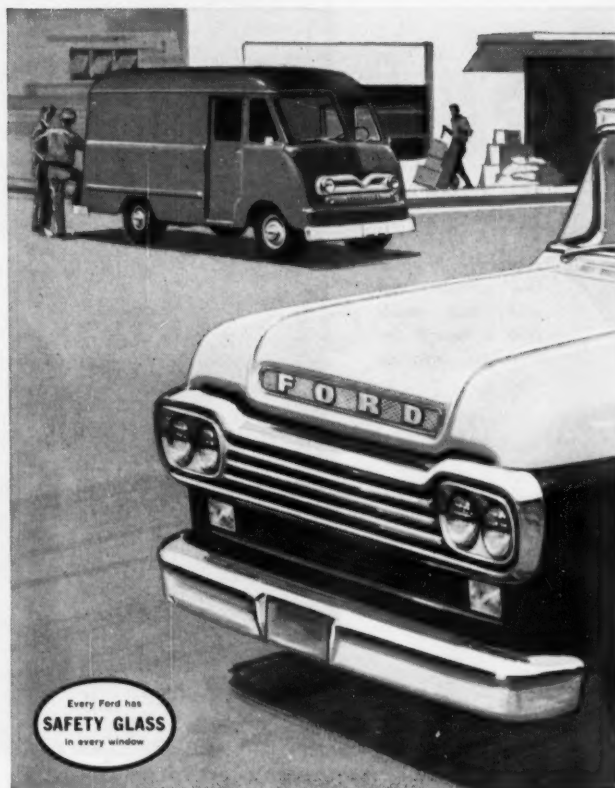
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New Courier—does credit to your name . . . Here's the way to make every delivery a "special delivery"! It's Ford's smart new Courier—America's most distinctive sedan delivery. There's big new loadspace—92 cubic feet of it—and items as long as 12 feet can easily fit inside. New, too, are big windows in the rear and sides to give car-like visibility in city traffic. Cargo area is lined for maximum load protection!



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Toughest two-tonner on the road... a dependable money-maker on the job! Ford's new F-600 Series have increased spring capacity and offer new optional 6000-lb. front axle for even greater payload capacity, longer axle life! Wide choice of Short Stroke power, too—modern Six or either of two new V-8 engines!



it will burn out in far less time.

When ready to operate the incinerator, the timing dial is set for the required time, and the burner controls are turned on. That's all there is to the operation of the incinerator, except to empty the ash bin before it gets too full. Since the incinerated material is burned down to the final non-combustible ash, the amount of this residue is very limited. In the ordinary family, the ash bin only needs to be emptied about twice a month.

Many benefits

Now for some of the benefits of owning an incinerator—and like any other appliance, it must be sold on the basis of results. What does it do that other methods of getting rid of waste material do not? In what ways is incineration better, safer, more convenient than the customary means of disposal? How does it compare in cost? Let's give the prospect some mental pictures that show up those advantages. Remember that generalizations do not create mental images—details do. And general statements will not stick unless they are supported by plenty of details.

Let's start with garbage. The incinerator will dispose of anything in the way of food wastes that can be put through an electric disposer, and a great many things that can not be put into the grinder. It will consume big beef bones, fruit stones, corn husks—all the things that would ruin the grinder, or require a long time to feed them into that little hole by hand.

You don't have to put in a little bit at a time and wait for each small portion to go down the drain. You just wrap the stuff up in a paper, or drop it in a bag, and put the whole package into the in-

cinerator through an opening a foot square. That includes all the waste materials accumulated in preparing the meal—corn husks, carrot tops, potato peelings, outside leaves of celery and cabbage, and all that trash, along with the food packages that could not be put in the garbage grinder. Table scraps can be included, or can be put in the incinerator later. Waste fats, which should never be put through the electric disposer, can be accumulated in a can, which can later be put right in the incinerator, right side up, so it can distill off as vapor and help to burn the garbage and trash.

Fuel cost

How about the cost of operating the gas-fired incinerator? From your standpoint, it is about the same as the cost of operating a gas range in the same home. You will admit that this is not very high. It may be a little higher than the cost of operating an electric garbage disposer—but it does many things that the disposal unit can not.

If, as is the case in most urban and suburban areas, the householder has to pay a fee for disposing of garbage and rubbish, the cost may be comparable, but the benefits are far greater. They get rid of these wastes immediately, and without the inconvenience of storing in containers and then carrying these out and in on pick-up day, and washing out the garbage can. Compared to the convenience, sanitation, and safety, any possible extra cost is one of the best bargains available to dwellers in modern homes. And the installation of a good gas-fired incinerator is an investment that provides a permanent increase in property value to the owner of the house.

Venting

The one problem about the incinerator that can be considered a legitimate objection is the requirement that it must have a safe flue. The incinerator itself is exceptionally well insulated, either with fiberglass, metal foil, other mineral insulation, or some combination of those materials. If the unit has AGA approval, we may be sure that the incinerator is safe to install indoors, in the basement, service porch, or even in the kitchen.

But the flue products are sometimes too hot for safe discharge through the Class B vent which is standard installation practice with water heaters and space heating equipment. The incinerator requires a Class A flue, which can dispose of those occasional high temperature drafts without creating any kind of a hazard.

All of this is thoroughly covered in NFPA pamphlet 52, with which every appliance salesman should be familiar, and which should be followed scrupulously by the installation mechanic. This requirement will occasionally impose a problem, but ordinarily the flue for the incinerator will be no more expensive than the cost of installing electrical and sewer connections for a garbage disposer. And not every kitchen sink will accommodate the disposer unit—most of the old ones must be replaced or have the hole reamed out to fit the opening of the disposer.

You salesmen in the L. P. gas business have a lot at stake in promoting incinerator sales. They can be sold to replace garbage grinders, but the easier and more numerous sales can be made where the disposer has never been installed. That includes the older homes where the residents are still getting rid of their waste materials in old fashioned ways, and the new homes for which the appliances and equipment are not yet ordered. And when you sell an incinerator, you are not only selling continued gas service, you are also selling a complete job of garbage and combustible trash disposal, instead of one that only gets rid of a fraction of the garbage. ■

Suggested Program for Sales Training Meeting Number 15

Since the smokeless, odorless LPG incinerators are so new, it will be important to teach the salesmen two new concepts: how the incinerators operate and what they can and cannot do. Teaching materials in the form of illustrated literature is available from manufacturers.

Once the salesmen know the operation and capabilities of the incinerators, instruction can begin in sales techniques. Here, again, one salesman can be the prospect while another tries to sell "her."



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OMAHA, NEBRASKA

A large, stylized flame graphic composed of concentric, teardrop-like shapes in shades of gray, centered on the page. The flame has a dark, solid black core at its base, which tapers to a point at the top. The surrounding layers are lighter shades of gray, creating a sense of depth and movement. The entire graphic is set against a background of larger, curved, light gray shapes that suggest a larger flame or a stylized environment.

Parade of Gas Progress

An "exhibit in print" of significant new developments in gas utilization equipment

This special "Parade of Gas Progress" section is based on the exhibit by the same name just held at the 40th annual convention of the American Gas Association. Educational rather than promotional in nature, the exhibit was devoted to gas utilization items which have become commercially available during the past two years, items which soon will become commercially available, and to prototypes of important new utilization devices still under development.

Participation in the exhibit was by invitation only.

On the following pages, BUTANE-PROPANE News presents many of the exhibits featured in the Atlantic City show, for the benefit of L. P. gas dealers across the nation and around the world. All of these items make use of L. P. as well as utility gas. Companies which did not have material available for presentation by BPN's publishing deadline could not be included.

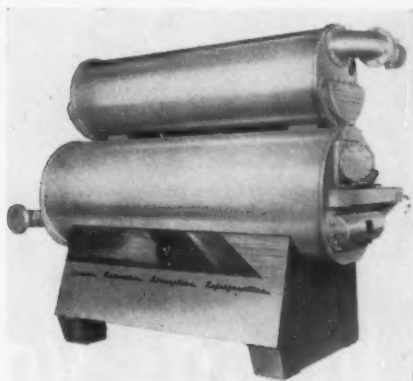


"PARADE OF GAS PROGRESS"

AIR CONDITIONING

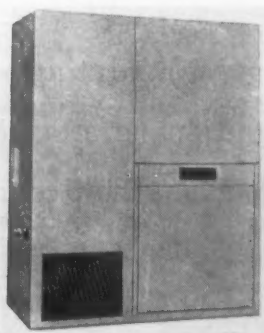
• Carrier Corp.

The Carrier automatic absorption refrigeration unit is a heat-operated refrigerating machine, using low-pressure steam, high temperature water, hot petroleum or other liquids as an energy source to produce chilled



water for air conditioning or process cooling applications. Water is used as the refrigerant and safe lithium bromide as the absorbent.

Operation can be fully automatic from full load down to zero capacity. There are no major moving parts, and because the machines are relatively light in weight, extremely compact and practically vibrationless, they may be installed on roofs or intermediate floors with no need for expensive foundations. Cooling capacities range from 60 to 705 tons.



• Arkla Air Conditioning Corp.

Sun Valley All-Year Air Conditioners heat and cool in a single unit, automatically cleaning and circulating while maintaining a temperature level in winter, or cooling, dehydrating, cleaning and circulating in summer.

The single unit, operating on the absorption principle, functions without moving parts. Available in

two sizes, the Model 500 provides $3\frac{1}{2}$ tons, occupying 10 sq ft of space, cools or heats up to 1900 sq ft of area. The model 750 provides 5 tons, requiring one additional foot of space, handles up to 3000 sq ft. A thermostat affords choice of cooling, heating or independent air circulation.

Units are quality and capacity tested, and bear the AGA Seal of Approval and meet all national standards of the American Standards Association.

Principal components are an absorption combination refrigeration and heating unit, a filter section, and a blower. A gas flame supplies heat to actuate the absorption unit.

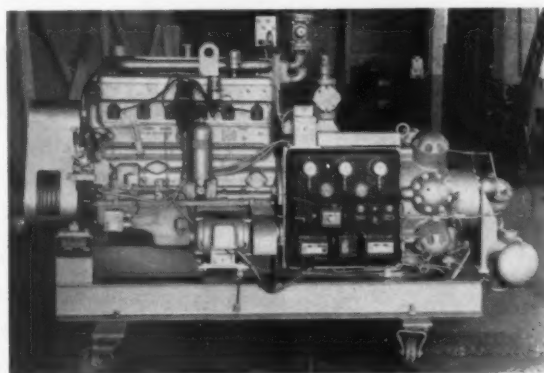
• Comfort Products Inc.

The Comfortemp 3 and 5-ton gas-powered air conditioning systems now in production operate on the refrigerant compression method, using Freon.

A gas-driven, liquid-cooled, internal combustion model Y69 Continental four-cylinder engine is used to drive a four-cylinder V-type Copeland No. 4A1 single acting compressor. The engine, compressor, and evaporative cooler are mounted, tandem style, in a neat acoustically-treated cabinet for outdoor installation.

No cooling tower nor interior space are required.

New $7\frac{1}{2}$ and 10 ton units will be available in 1959.



• The Ready-Power Co.

Automatic speed control and compressor cylinder loading and unloading is featured by the Ready-Power gas-operated engine compressor air conditioning units. This combination represents "loadmatching" over a wide capacity range, from about 5 tons to maximum.

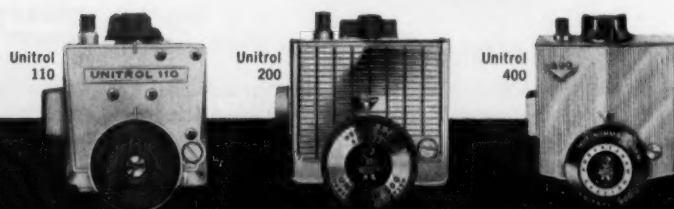
The direct coupled arrangement of engine and compressor is held near perfect alignment by a heavy steel flexible coupling and steel adapter plate. Governor speed control permits the unit to automatically vary rpm when suction pressure tends to change from its preset point. Evaporator temperature is therefore not

out of the blue sky.....

ROBERTSHAW brings you

* water heater **UNITROLS** with pressure

- Increase gas burner ratings
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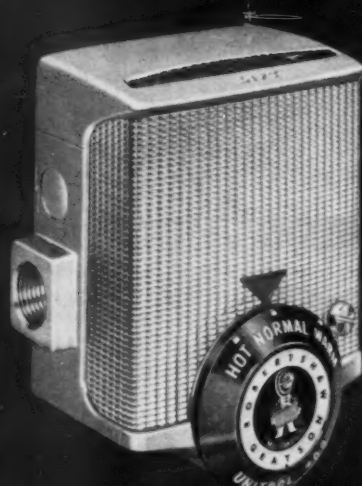
Now you have a selection of standard Unitrols 110, 200 or 400... or for these additional benefits, specify the Unitrol 110 R, Unitrol 200 R or Unitrol 400 R!

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Robertshaw announces the most advanced *new* water heater controls ever engineered—the **R*** series... new Unitrols featuring built-in pressure regulators to increase your water heater ratings and sales! The basic Unitrol functions of thermostatic gas valve, main gas cock, 100% automatic pilot, pilot adjuster and pilot filter are included in combination with a built-in pressure regulator.




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The smartest way to boost sales, the ultimate in appearance, dependability and efficiency... plus a new built-in pressure regulator.



UNITROL 200 
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UNITROL 110 
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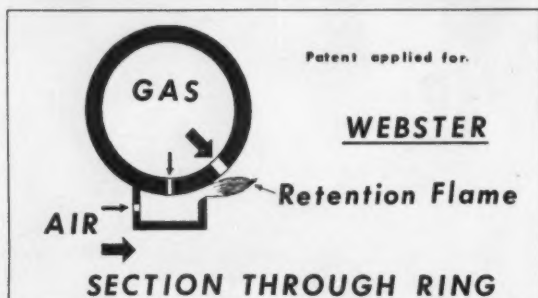


"PARADE OF GAS PROGRESS"

subject to any objectionable change and humidity control is a stabilized condition.

Models range in size from 15 to 150 tons including matching chiller packages. Can be ordered factory-equipped for LPG.

BURNERS



• Webster Engineering Co.

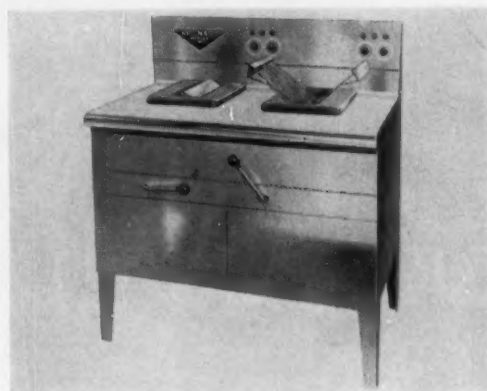
A unique application of the historical "stick-tight" burner nozzle principle to the formerly unstable ring gas burner has resulted in the Webster flame retention ring gas burner with positive, continuous ignition under all conditions. There is no total pre-mixing. A small percentage of the raw gas enters the annular space under the retention band and is there mixed with air entering through the weeper ports on the back side of the band. The ribbon of flame produced at the exit of the annular space furnishes constant ignition to the main gas supply without regard to flow conditions of either gas or air. The results are astonishing, and this patentable conception promises to cause a minor revolution in the heavy commercial and industrial burner fields. Tremendous inputs are possible in small spaces and combustion is quiet and stable at all rates of air flow from high excess to a deficiency.

COMMERCIAL COOKING

• The Broaster Co.

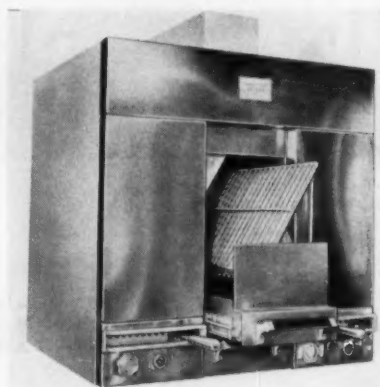
Both sides of a steak are seared and sealed simultaneously by deep-penetrating infra red rays in The Broaster Co.'s Red-Magic broiler. A Schwank ray-head burner, with 100 per cent primary air, is used, eliminating all secondary air and creating an atmosphere too low in oxygen to support combustion of the steak. This permits higher temperatures and more intense radiation without danger of the meat catching on fire.

Two degrees of heat are provided, each with an automatic timer that may be set as desired. A buzzer and



green light signal tell when steaks are ready.

The broiler comes in two models: one for broiling 15 oz New York cuts, and one for 12 oz.



• Magic Ray Inc.

Steaks and chops can be charcoal broiled with gas with the Magic-Ray broiler, which uses a Perfection Schwank infra-red generator. Attaining a temperature of 1650 deg. F in approximately 90 seconds, the infra-red heaters, arranged on both sides of a grill inclined to the horizontal, broil both sides of the meat simultaneously and in short time. An almost instant sealing of the surface of the meat results in a virtually complete retention of natural juices with minimum shrinking.

An average steak can be broiled in two to four minutes depending on thickness.

• Malleable Steel Range Mfg. Corp.

Three types of new Hi-Speed commercial gas range tops assembled into a new compact table-top assembly will be shown by South Bend. Hi-Speed burners

**BUILT
RIGHT...
TO
SELL
ON
SIGHT**



VAILLANT *Tankless* **WATER HEATERS**



Natural or LP-Gas

At last . . . a tankless water heater superbly designed for low-cost, efficient operation and economy of space. And best of all — new modern Vaillant styling in a variety of decorator colors that radiate sales appeal. Sell the instantaneous water heater that's easiest to install, surest to please, most profitable to handle . . . the **VAILLANT TANKLESS WATER HEATER.**

To help you sell:
Written Warranty
National Advertising
Newspaper Mats
Colorful Literature
Decorator Color Sampler Displays



STANDARD CONNECTIONS FOR COMPLETE SYSTEMS
Manufacturers Specifications

	MAG 125/0	MAG 250/0	MAG 325/0
Input (LP-Gas Model)	35,000 BTU/hr	70,000 BTU/hr	93,000 BTU/hr
Input (Natural Gas Model)	37,500 BTU/hr	70,000 BTU/hr	103,000 BTU/hr
Water Raised 100° F (LP-Gas Model)	29.4 gal/hr	58.8 gal/hr	78.0 gal/hr
Water Raised 100° F (Natural Gas Model)	31.5 gal/hr	63.0 gal/hr	86.4 gal/hr
Height	23 in	35 in	41.5 in
Width	9.2 in	14 in	18.5 in
Depth	8 in	10.2 in	10.2 in
Net Weight	18.5 lbs	31.0 lbs	37.5 lbs

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Norco Sales Corporation, Dept. 26
5656 W. Washington Blvd.
Los Angeles 16, California

Send information on
VAILLANT WATER HEATERS

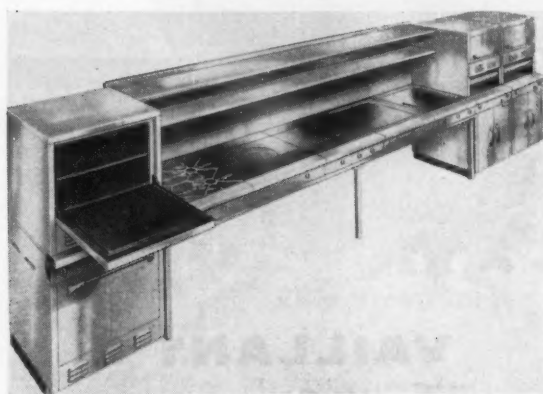
Name _____
Street _____
City _____ Zone _____
State _____



"PARADE OF GAS PROGRESS"

for these units, representing the only basic improvement in burner principle in recent times, are from "application of designs developed under the PAR Research Program of American Gas Association."

Both the burner head and venturi areas are larger



than for conventional type burners to accommodate additional quantities of both air and gas. Air and gas mix thoroughly in the venturi and lower burner head compartment before passing into the upper burner head compartment.

The gas mixture then first enters ports located at the bottom of the upper compartment of the burner head and passes through an area between an inner and outer wall of the burner head. This mixture ignites and establishes a "retainer flame" $\frac{1}{2}$ in. below the main burner ports.

The "retainer flame" retards the upward flow of secondary air to the main burner ports, thus holding the Hi-Speed flame tightly to the burner.

Some Hi-Speed burners develop as much as 90 per cent more heat than certain conventional type burners. In addition, the turn-down quality of the Hi-Speed burner is excellent.

• Gifford-Wood Co.

The Unifryer is a scientifically designed fryer combining stable fat temperature for perfectly fried foods with automatic features that mean faster frying, greater production and lower operating costs.

The secret of the Unifryer lies in its continuous operation, as opposed to the single load operation of conventional fryers. Each portion is inserted when it is ordered, and automatically removed when it is cooked. Different foods starting to cook at different

SUBURBAN NOVENT and DYNAVENT the gas heaters with "SIX APPEALS" that woo and win customers everywhere . . .



1. Install in window or outside wall (like an air conditioner)
2. Fully vented — **need no flue or chimney**
3. Extend only 8½" into room (7½" for 20,000 BTU model)
4. Completely automatic with built-in or wall thermostat
5. Forced warm-air circulation for even heat throughout
6. Economical operation — **saves up to 30% in fuel costs**

AVAILABLE IN THREE SIZES: 20,000 BTU — 35,000 BTU — 45,000 BTU

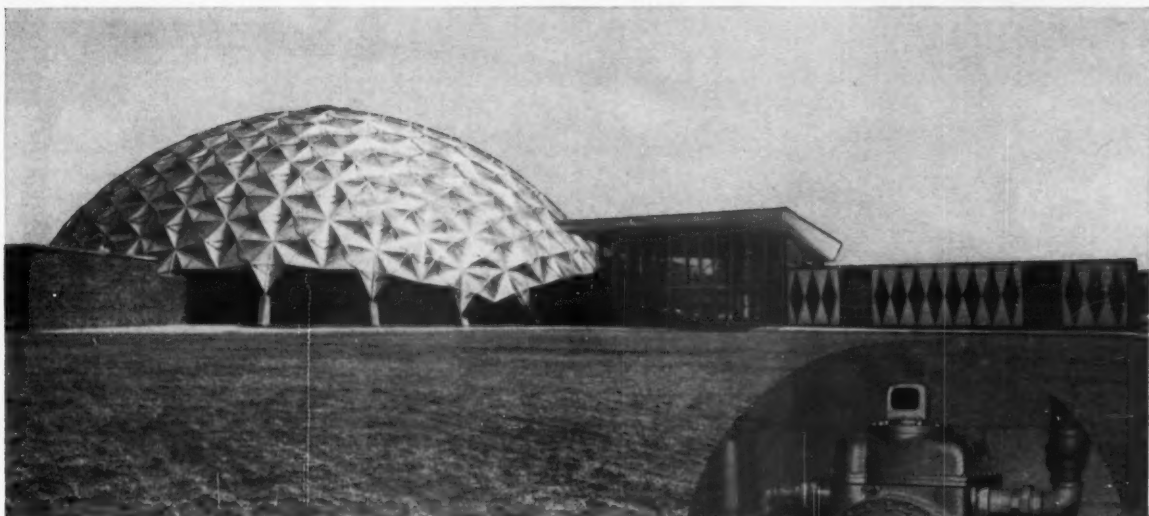
Fully approved by the AGA, Leading Utilities and LP-Gas Marketers

For Complete Information Write: BP-1158

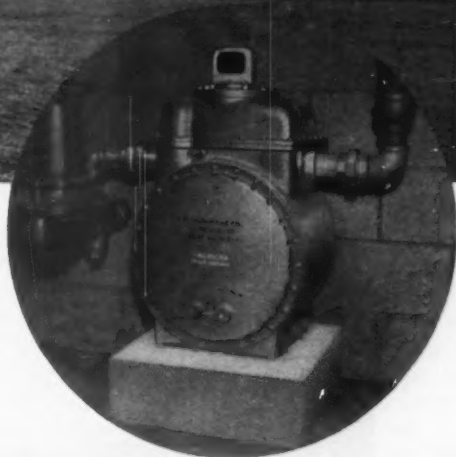
SUBURBAN APPLIANCE CO.

GENERAL OFFICES: WHIPPANY N. J.

FACTORY: DAYTON, TENN.



Handsome new Convention Hall at Virginia Beach is heated and air-conditioned with LP-Gas. American 80B Ironcase Meter, with Reliance type HPH Regulator, measures the gas that keeps conventions and large meetings comfortable all year 'round. LP-Gas cooking facilities are also being installed in the municipally-built hall.



AMERICAN® LP-GAS METERS BUILD LOADS FOR...



Attractive, lightweight Aluminumcase Meters bring "city-type" gas service to Virginia Beach, Virginia. AL-110 meters build customer confidence throughout Virginia Beach Gas Company's 26 miles of distribution lines within the city. The company distributes about 800,000 gallons of propane each year through underground gas mains.

Using the most up-to-date LP-Gas distribution methods, progressive Virginia Beach Gas Corporation brings its customers completely convenient gas service. Virginia Beach Gas Corp. serves the city of Virginia Beach. Its sister company, Beach Gas Corporation, distributes bottled gas to the suburban area near Virginia Beach. Together, the two companies serve 2500 customers — all residential or commercial.

Virginia Beach Gas Corporation's customers have rewarded the company's superior service by continually increasing their loads, helping the company grow and prosper.

AMERICAN®
METER COMPANY
INCORPORATED (ESTABLISHED 1836)



GENERAL SALES OFFICE: Philadelphia 16, Penna. • Albany • Alhambra • Atlanta • Baltimore • Birmingham • Boston • Chicago • Dallas • Denver • Erie • Houston • Kansas City • Los Angeles • Minneapolis • New York • Omaha • Pittsburgh • San Francisco • Seattle • Tulsa • Wynnewood
IN CANADA: Canadian Meter Company, Ltd., Milton, Ontario • Calgary • Edmonton • Regina
SUPPLIERS TO THE GAS INDUSTRY for Ironcase, Tinned Steelcase, Aluminumcase, and Welded Steelcase Meters • American-Westcott Orifice Meters • Instruments • Reliance Regulators • Apparatus • Valves



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IMPACT
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TRUFLAME
distributors!



The new 50/50 Advertising Plan for Sinclair distributors has gained immediate and enthusiastic acceptance. This selling tool is already working for distributors throughout the country.

Join forces with a company already recognized for "The Famous Five" INTEGRITY, REPUTATION, QUALITY, SERVICE and PERFORMANCE. Wire, write or telephone for complete information today.

The TRUFLAME 50/50 advertising is being seen by thousands. Its impact is being felt by distributors whose cash registers are ringing up additional sales. Consumers are identifying the TRUFLAME emblem as a sign of the highest quality and service.

If you need the support of a company that can assure you of an adequate supply of product, professional engineering, on time delivery . . . plus the prestige of a nationally advertised trade name, call Sinclair.

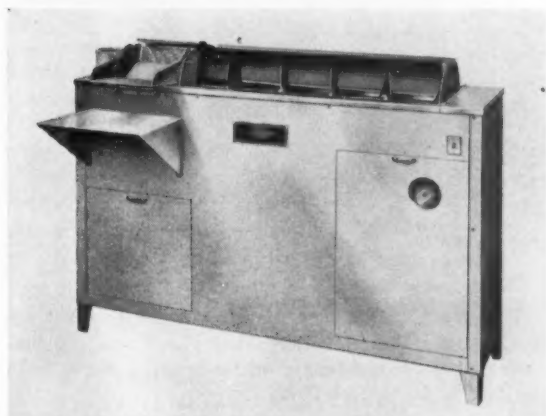


Sinclair Oil and Gas Company
Liquefied Petroleum Gas Sales Department
Sinclair Oil Building, Tulsa, Oklahoma

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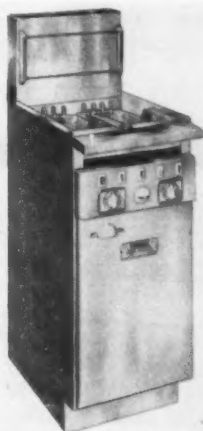


"PARADE OF GAS PROGRESS"



times all fry simultaneously with no transfer of flavor from one to the other.

The food is carried slowly through the fat by a screw conveyor. As each load is properly cooked, it is automatically lifted from the fat, drained, and deposited on a delivery chute. No attention of any kind is required.



• Specialities Appliance Corp.

The Keating Trump Special fryer controls the temperature of the fat during the most critical period—the time the food finishes frying—as well as during the whole cooking process. Latest technical developments producing this performance are designed to fry superior quality food.

The 14-in. fryer has a gas input of 115,000 Btu per hr, which enables pre-heat time reduction to less than five minutes. Also, this tremendous input gives this appliance a very large capacity for frying all kinds of food.

Controlled cooking results in superior food for the customer and satisfied customers for the dealer.

COMPLETE KITCHEN

• Whirlpool Corp.

A new gas power burner is utilized in the RCA Whirlpool Miracle Gas Kitchen. The burner gets high efficiency through a method of mixing controlled amounts of primary air with gas. No secondary air is consumed.

Also in the kitchen are a gas water heater that provides almost limitless amounts of hot water, a magic meal maker that moves a frozen food menu from a refrigerated unit and heats it at the push of a button, and a gas-powered home heating, cooling, and air purification unit.

CONTROLS

• Robertshaw-Fulton Controls Co.

The "Burner with a Brain" has revolutionized the kitchen range, and has done a most acceptable job in doing it. The new Robertshaw-Fulton Thermal Eye with its new Flame Set feature takes technical development of this controlled top burner to a new stage.

In some cases, the users of Burners with the Brain have not been able to adapt the size of the burner flame to the size of the utensil (particularly small utensils) and, more important, have not been able to reduce the amount of heat to non-aluminum utensils as recommended by their manufacturers.

The Flame Set feature permits the homemaker to select flame height and cooking temperature to suit the size, shape and material of the cooking utensil. Also, universal temperature charts are available for the first time that take into account the relatively low heat conductivity factor of non-aluminum utensils as compared with those of aluminum.

On exhibit also is this company's new type of auto-



matic pilot which is mercury actuated and which has been developed specifically for the gas industry as a device that will assist meeting the AGA Automatic Ignition Requirements, effective Jan. 1, 1959. This unit is very economical and has no "red buttons" to be pushed nor "strings" to be pulled to restore it to operation. Lighting a small stand-by pilot is all that is needed.



• **Robertshaw-Fulton Controls Co.,
Grayson Controls Div.**

A gas pressure regulator has been built in to Robertshaw gas water heater controls to make an all-in-one assembly with the thermostatic gas valve, main gas cock, 100 per cent automatic pilot, pilot adjuster, and pilot filter.

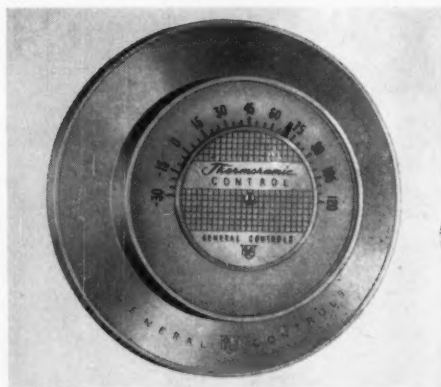
The built-in pressure regulator comes as part of the company's standard Unitrols 110, 200 and 400. The control package, identified by an "R" after the control number, has been reduced to compact dimensions. The combination of the regulator with the other controls results in a saving of about 60 per cent of the space needed to mount the devices separately.

Laboratory and field tests have shown better performance, fewer service calls, and greater hot water delivery.

• **General Controls Co.**

In combination with any of numerous General Controls indoor thermostats adapted for system use, the outdoor T-51 compensator comprises the General Controls indoor-outdoor control system. This is an automatic temperature control system which senses outdoor air temperature and changes indoor temperature settings as required to assure comfort conditions.

Comfort is maintained by increasing indoor temperature when heat loss by body and walls is accelerated during periods of cold outside weather. The standard T-51 is equipped to compensate 1 deg. F for every 15 deg. of difference between outdoor temperature and indoor thermostat setting, and is said to have a 15 to 1 ratio.



To allow for different forms of building construction, geographical location, etc., two extra compensating resistors are furnished for altering the ratio in the field to 20 to 1 or 10 to 1.

• **Controls Company of America**

An automatic direct spark ignition system for gas appliances—doing away with the pilot burner—has been introduced by Controls Co. of America. The system provides for the direct ignition of the main burner gas by means of an intense electric spark.

The system incorporates all the necessary safeguards against ignition failure of the main burner gas in a new manner. Spark ignition has so far been demonstrated in a gas clothes dryer.

DRYERS



• **Norge Division, Borg-Warner Corp.**

A full line of gas-fired appliances was the highlight of Norge's exhibit at AGA's "Parade of Progress." This included the company's new gas refrigerator, or at least it was making every practical effort to have it available for exhibit as we go to press.

The Norge gas clothes dryer (Model DG-500) features a "fabric formula control." This permits the



"PARADE OF GAS PROGRESS"

user to turn a dial to the type of fabric to be dried so that controls can then be set by "following the dots." Another new technical development is the "stop 'n dry" control which stops the cylinder for either of the two stationary methods. This control is visually displayed with an indicator light on the backboard of the unit.



• O'Keefe & Merritt Co.

The company's new built-in washer-dryer combination is designed for undercounter, elevated wall, or cabinet installation. The new model has front access to all controls and electrical devices, pilot and main burner, all service connections, except moisture exhaust. A new slide-in moisture exhaust connection and front lint screen afford fast, simple installation and easy removal.

This new built-in—as the free-standing model released early this year—features Stedi-Speed action with no vibration or spin. With no spin and a special Wash-n-Wear setting, all laundry problems disappear. Fabric-keyed dials, plus automatic water level control and drying time regardless of load, fabric or room humidity, make washday easy. Simple design for maximum reliability and ease of servicing—least complicated combination yet.

• Philco Corp.

Philco presented its Duomatic washer-dryer and its Automagic dryer at the AGA Parade of Progress exhibit. The Duomatic has been designed in an under-counter model for the most modern kitchens. It comes with remote control operation. The Philco Automagic dryer literally senses when clothes are dry and does not depend on humidity-type thermostatic controls. Drying time has been greatly reduced.

GAS LIGHTS



• Bruest Inc.

Gas-glo gas lights come in five lawn models and one four mantle type light for street and other utility lighting.

Lights feature snap-on tops and polyethylene coated posts. Hood cover is brass. All glass is double strength.

The lawn lights use 9 to 11 gal. of LPG per month in 24 hour operation.



• Modern Home Products

The "Charmglow" gas lamps are manufactured in copper. However, they can be supplied in this finish or in black.

A pressure regulator is installed on all lamps. The burners are machined and an access door is provided in the side of the lamp. This feature, an exclusive with the "Charmglow" lamps, makes this appliance easier and safer to service. Gas input is about 2200 Btu per hr.

This manufacturer makes a lamp post to complement the lamps. The post is telescopic for quick, easy installation under a wide range of conditions. There is no forcing necessary to get the gas supply line into the post. The copper supply line can be cut to desired



"PARADE OF GAS PROGRESS"

length and attached to the lamp while the upper section of the post is in lowered position.

"Charmglow" gas lamps are represented nationally by Walter T. Moran, Chicago, Ill.

• *Arkla Air Conditioning Corp.*

Arkla Air Conditioning Corp. has introduced a new product for outdoor lighting, the "Gaslite," which operates on natural gas, butane or propane. The Arkla Gaslite is available in three styles, the "Cabildo,"



the "Flair," and "Heritage," each providing a non-irritating light for home or place of business, and adaptable for pipe or post installation. Gas consumption approximates that of a gas range, in maximum use burns per day.

Installation of the lights is simple, requiring no costly, extensive training for the service and installation personnel. Basic parts consist of sturdy, metal base assembly providing the foundation for the glass shield panels; a precision-tooled control burner assembly allowing constant burning of the gas and proper illumination; a top assembly with shield to protect the interior of the lamp from rain and wind. A white mantel of woven aluminum oxide produces the illumination. Each light is shipped from the factory almost completely assembled.

• *Hadco Aluminum Products Co.*

Modern engineering and old-world design are combined in the Yorktowne series of gas lights. The Hadco design is based on one-piece aluminum castings which produce simple and lasting construction.

The burner is a fixed orifice type. A filigree gallery chimney-type holder is an integral part of the burner. The burner assembly is a straight line, vertical, bunsen type. It is fitted with a shut-off valve and can be purchased with a pressure regulator installed. Proper



input is maintained with a regulator setting of 0.5-in. w-c for natural gas.

The lantern body can be passed over the burner assembly unit. It seats into bayonet slots located in the lantern base, and is locked in place with set screws. With the lantern body removed, chimney, mantle, shut-off valve, and controls are exposed for easy servicing and remantling. This design applies to all Yorktowne models—post-, bracket-, and pier based-mounted styles.



• *Equitable Gas Co.*

The Veritas lanterns are modeled after the most gracefully proportioned of the older American lamps. They are made of enduring copper, wrought iron, and brass.

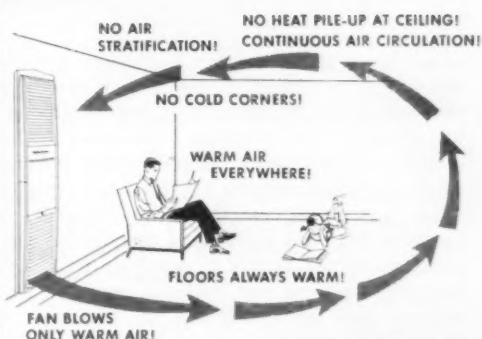
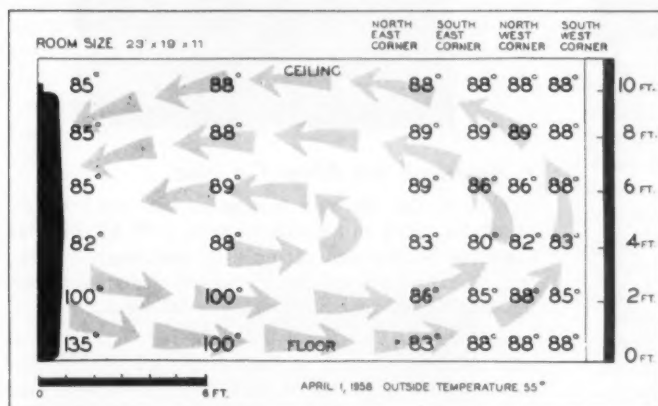
Special features include unique polished brass counter-balanced latch, protective valve, and removable tamper-proof key. There is also a hinged top for easy cleaning, hinged door for easy lighting, and an adjustable orifice that makes the lantern adaptable for various pressures and types of gas.

As a new unique source of revenue, the yearly consumption of the lamp is about as much as that of a kitchen range and about twice that of a gas clothes dryer.

The post lantern measures 12 in. by 12 in. square and is 26 in. high.

Here's Suburban Counter-Flo Proof that will . . .

HELP YOU SELL MORE WALL HEATERS THAN EVER!



Your wall heater prospects want a wall heater that will heat evenly, throughout the whole room. Now here's proof you can offer a wall heater that *does* heat evenly, the Suburban Counter-Flo. Show this chart to your prospects and increase your sales.

Temperature readings above were recorded by thermocouples in fixed positions throughout a 23' x 19'

room with an 11' ceiling. The Counter-Flo's continuous warm air circulation caused floor and ceiling temperatures to be practically the same! The maintenance of even room temperatures was made even more difficult because the room temperature was raised higher than normal to maintain a wider differential with outside temperature than is usually necessary.

Suburban's Counter-Flo is the one gas wall heater that proves by actual test it maintains even warmth from floor to ceiling! A powerful fan pulls air in through the top grille. Air is re-heated, forced out of the bottom grille and re-circulated to every corner of the room. This *proven* wall heater can mean more sales for you.

Front panel fits between studs for faster installation—automatically fits any wall 4" to 7" thick. Only one opening required. Heat exchanger guaranteed for 20 years. 35,000 BTU single wall and 50,000 BTU dual wall models.

suburban

FORCED-AIR
COUNTER-FLO GAS WALL HEATERS

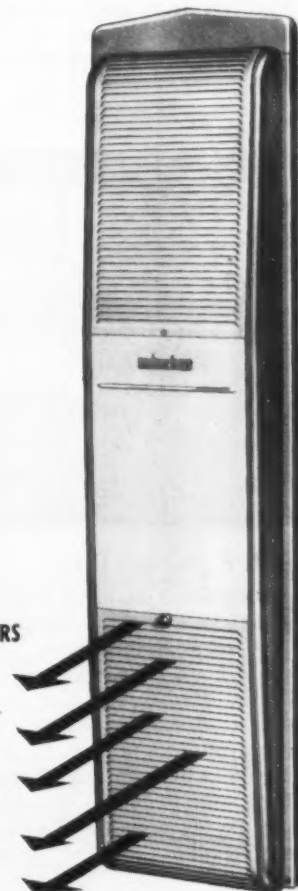
Samuel Stamping and Enameling Co.
Dept. BPN-118
Chattanooga, Tenn.

NAME _____

ADDRESS _____

Please rush me full details on Suburban Counter-Flo. I am a ☐ dealer ☐ wholesaler.

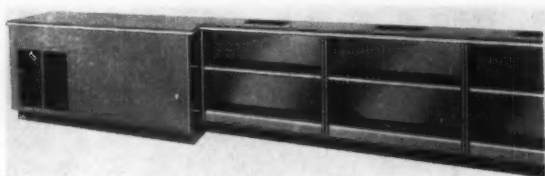
CITY _____ STATE _____



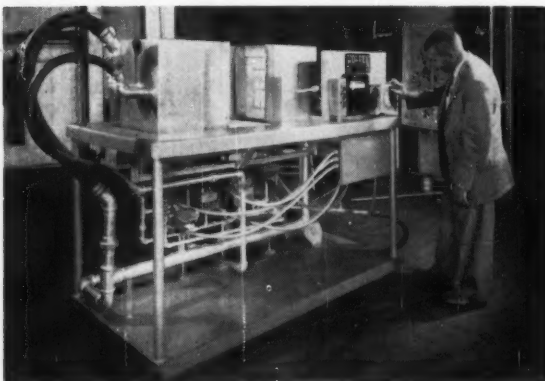
HEATING EQUIPMENT

• Norman Products Co.

Norman gas-fired, warm air schoolroom system utilizes 100 per cent outside air for combustion. Exclusive damper assembly operates outdoor and indoor dampers automatically to blend fresh and recirculated air. The Norman thermostat automatically cycles the gas burner to supply heat, and modulates the damper

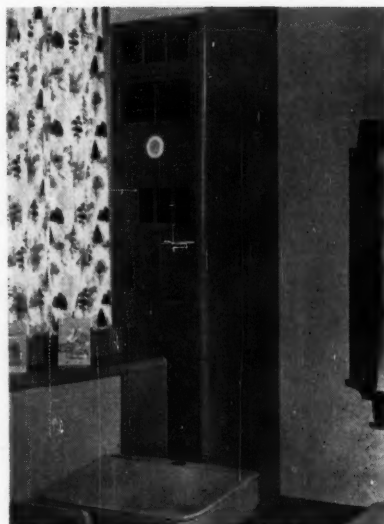


motor for ventilation to maintain even classroom temperature. Individual Norman schoolroom packages are available with inputs of 85,000 or 100,000 Btu per hr. Furnaces for Norman schoolroom systems have ceramic-coated heat exchangers; silent gas valves and 24-v. pre-wired controls of the latest type listed by AGA. Individual central heating units are available for both left- and right-hand installation and can be easily connected to flue in partition wall. Util-i-Duct bookshelf sections and optional, compact Wall-i-Duct sections have vertical discharge perimeter diffusers with locking dampers and adjustable controls. Matching corner, filler and end sections are available for either air distribution system.



• A. F. Holden Co.

The Holden luminous wall furnace produces radiant heat for a variety of indoor and outdoor uses. It uses a porous refractory lining. The gas-air mixture passing through the brick produces an even flame at the surface of the refractory at approximately 1/10 of 1 in. wc. Temperature at the surface of the refractory at 60,000 Btu per sq. ft. equals 1500 deg. F. 2½ minutes after ignition. Temperature 2 in. from the firing face is 106 to 110 deg. F. The refractory is continuously cooled by the gas-air mixture eliminating the possibility of the refractory storing heat in itself.

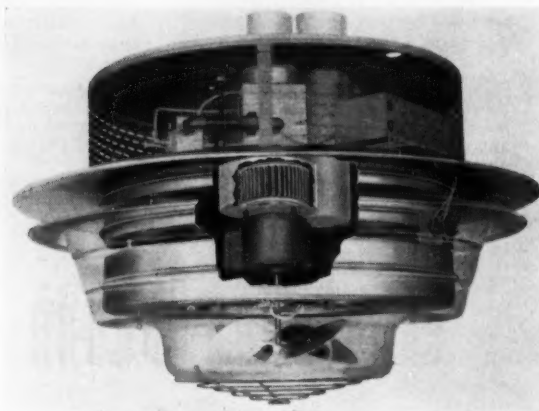


• American Air Filter Co., Inc.

This is the Herman Nelson direct gas-fired unit ventilator rated in accordance with ASHAE Standard Code for testing and rating unit ventilators. This is one of many unit ventilator systems designed to meet the specific, unique requirements of schools.

Keeping schoolrooms comfortable is a special problem. A large amount of heat is generated in schoolrooms because of the density of occupation. And lights and sun, even in the winter, add more heat. For these reasons, keeping schoolrooms comfortable becomes primarily a ventilating and cooling problem.

Unit ventilators for schoolrooms must have engineered draft protection, rapid heat, and air for ventilation or air for cooling (with outdoor air) on an individual classroom basis.



• Norman Products Co.

Norman-pioneered sealed combustion system operates completely independent of room air. All combustion air enters unit from outside through inlet pipe. All exhaust gases and combustion products are vented to outside under positive pressure through separate



"PARADE OF GAS PROGRESS"

pipe. Exclusive automatic electric pilot ignition is programmed by thermostat. The Norman Three-Sixty is a basic departure from conventional atmospheric type unit heaters. Double-shafted motor operates 14-in. diameter fan to propel air through unit and squirrel-cage blower to pull products of combustion through heat exchanger and force flue products out through flue pipe. Radial-Flo models draw return air in through bottom and gently distribute complete circle of warm air downward and outward from top air diffuser. Down-Blo models deliver warm air with high initial velocity directly through bottom of unit. Eighty-five thousand and 115,000 Btu per hour inputs available in both types. Units can be suspended flush or non-flush to ceiling and vented vertically through roof or through side of building with horizontal run up to 35 ft.



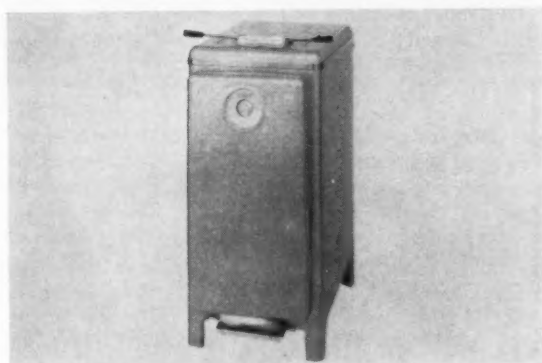
• Suburban Appliance Co.

Power-vented heaters that need no flue or vent are featured in the Suburban exhibit. They are designed for installation where flues, chimneys and ducts work are costly, undesirable or impractical. Both the Novent and Dynavent lines are fully automatic. They use only outside air for combustion. And all products of combustion are exhausted outdoors.

Gas inputs for the three models are 20,000, 35,000, and 45,000 Btu per hr, respectively. The 20,000 Btu model is 14.00 in. wide, 14.50 in. high, and 22.75 in. deep. It fits between wall studs without framing. Both the 35,000 and 45,000 Btu models are 19.875 in. wide, 16.875 in. high, and 23.75 in. deep.

The heaters are available with either a built-in temperature control or a wall thermostat. Heat starts instantly and is circulated throughout the room.

INCINERATORS

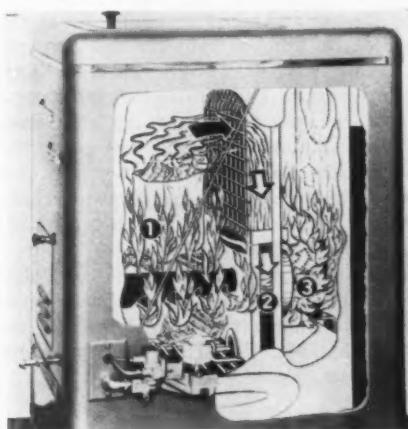


• Waste King Corp.

The Waste King smokeless, odorless incinerator can dehydrate and burn $1\frac{1}{2}$ bu of rubbish, garbage, and other household combustibles in from one to four hours, depending on moisture content.

A multiple burning chamber and a fly-ash trap reduce all exhaust to carbon dioxide and steam. Temperature in the second chamber reaches 1200 deg. F.

The incinerator is encased in a champagne gold cabinet and can be opened for loading by use of a foot pedal or rabbit-ear handle.



• Calcinator Corp.

The Calcinator Imperial smokeless and odorless unit features a three-stage corrugated combustion chamber, plus a unique multi-flame burner for both primary and secondary combustion.

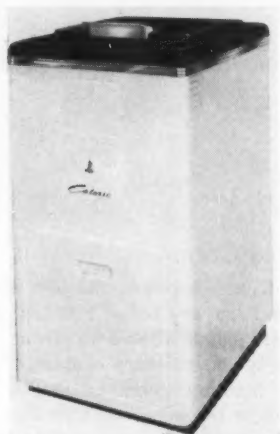
Here's how the burning process works (see photo):

In (Fig. 1) the refuse is consumed and ash drops down on grate. Smoke and odors are passed over baffle into the second stage (Fig. 2) where they contact afterburner flame and pass into "afterburning" chamber (Fig. 3).

Gases are reburned and fly-ash settled out by a twin cyclonic action.

Other features include tip-toe door opener, automatic door closer, built in coolant air diverter, shaking and dump grate, insulated case and floor baffle. The AGA-approved unit is 18 in. wide, 24 in. deep and 35 in. high.

Gas input is 30,000 Btu on burner plus 200 Btu on pilot. Capacity is 1.5 bushels and uses a 100 per cent safety shut-off timer control valve.



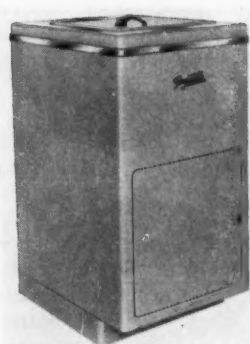
• Caloric Appliance Corp.

This automatic gas disposer is a top loading appliance. In the refuse chamber, a "jetstream" gas burner changes the garbage by distillation to gaseous elements (smoke and odor) and ash. Ashes collect on the grate to be dumped into the ash drawer below. Smoke and odor are drawn downward by "jetstream" air flow in the unit. They travel through a combustion tube where the gas flame "eats up" the smoke and odor. The remaining smoke and odor go up the auxiliary combustion chamber where they are completely consumed. Fiber-fraux high-temperature radiants in this chamber assure sufficient combustion to eliminate smoke and odor in any quantity.

Automatic draft control lets in cool air which goes up the dilution flue at the back of the disposer and mixes with the hot air coming from the auxiliary combustion chamber. Finally, out the stack comes the clean, smokeless, odorless air.

• Bowser Inc.

The Bowser SM-2 Smogmaster is a 1.75-bushel capacity, tertiary chambered, smokeless and odorless, controlled combustion, domestic incinerator. A 34,000-Btu per hr inshot monoport burner is employed in conjunction with a stainless steel tunnel and hydroxylating chamber. The refuse is dehydrated, ignited and consumed through a combination of convective, conductive and radiant heat. The combustion products from the charging chamber go into a down-pass chamber, and through the gas flame into the highly heated



hydroxylating chamber where they are burned completely.

For safe and trouble free operation, a fully protected 900 Btu per hr non-primary aerated pilot burner is employed with a 100 per cent shut-off thermomagnetic safety valve.

Through the induction of cooling air into the fully insulated cabinet, housing surface and flue gas temperatures are maintained at safe levels. The burning cycle is variable and controlled by a clock timer having a maximum setting of four hours.



• Bastian Morley Co. Inc.

The Basmor smokeless, odorless gas incinerator is built in a rounded shape to conserve space in the home. Complete combustion is assured through use of secondary combustion.

Finish is baked enamel with "constant-cool" top charge door, fully automatic timer, and front control. One bushel capacity.

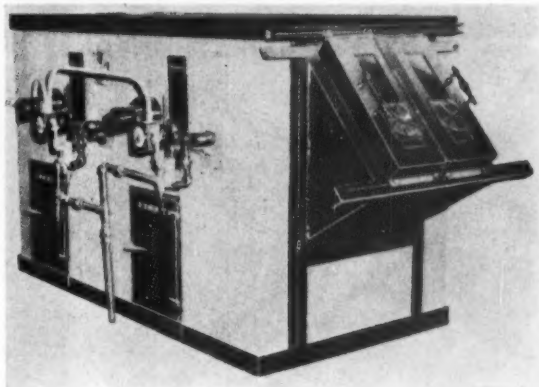
• McNaulin Inc.

The Vulcanor incinerator provides smokeless, odorless incineration for commercial and industrial uses. Primary and secondary combustion chambers are provided, with scientifically designed bridge wall, patented adjustable drop arch, and carefully designed air entrainment. The design causes two 90 deg. changes in direction of gases, slowing the velocity and causing necessary turbulence for complete combustion.

The self-contained units are designed to meet the



"PARADE OF GAS PROGRESS"



needs of applications requiring up to 175 lb per hour capacities.

Interlocked, steel clad refractory sections are featured.



• King-Seeley Corp.

A stainless steel jet type burner gives primary and secondary ignition in the Superflame smokeless, odorless domestic incinerator. The unit can be pre-set so it will burn for any given amount of time up to four hours.

The top door opens by stepping on a foot pedal, allowing freedom of hand movement.

The secondary combustion principle is used so that all smoke and gases pass through flame and secondary air for complete combustion.

• Locke Stove Co.

The Warm Morning gas incinerator, Model L-16, achieves virtually smokeless-odorless disposal of garbage and trash by means of a two-stage incineration process utilizing a primary and secondary burner.

Flames from the primary burner consume the load,

reducing it to a small amount of powdery ash which sifts through the grate openings into the container below. Products of combustion from the burning refuse pass over and under a series of baffles and through the flames of the "after-burner" where smoke and odor are consumed before they reach the flue outlet.

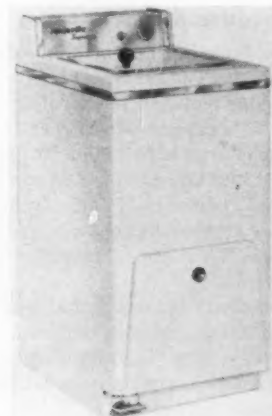
The Model L-16 Warm Morning has a firebrick lining that is guaranteed not to rust, buckle or burn out. The heavy cast iron top and insulated feed door are finished in dark green porcelain enamel. The body has a metallic green finish of heat resistant silicon enamel.

The main burners are controlled by a combination



automatic burner timer and 100 per cent safety shut-off valve.

Capacity of the Model L-16 is 1.6 bushels. Total input with main burner operating is 38,000 Btu per hour. The unit is AGA approved under the 1958 Smokeless-Odorless Requirements for use with all popular types of gas.



• Majestic Co. Inc.

Smoke and odor produced in the combustion chamber of this new gas-fired incinerator are consumed by flame in a stainless steel "Turbo" combustion chamber

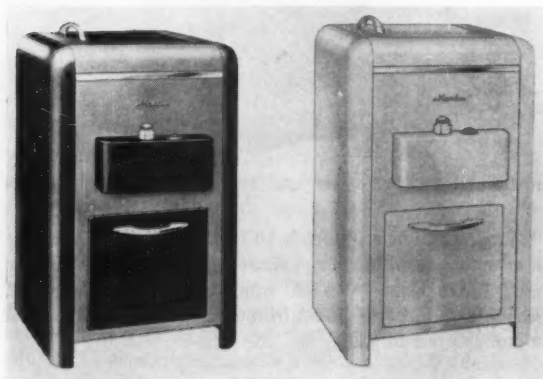


"PARADE OF GAS PROGRESS"

before entering the flue. A venturi flue collar inspi-rates air into the flue pipe from the casing interior and mixes it with the hot flue gases. Thus, smoke and odors are eliminated, and a reduced stack-gas tempera-ture is maintained.

Capacity of the appliance is 1.5 bushels of waste charge, which is flamed in a steel rod assembly, pro-ducing good free air passage around the charge. The air flow and downdraft boost operating efficiency of the combustion chamber. Combustion efficiency is supported by a stainless steel radiation plate—mounted inside the loading door—which reflects heat down on the trash load. Input rating (Majestic SSO-8) is 30,000 Btu per hr; pilot burner input is 800 Btu per hr.

An automatic clock-timer and pilot safety button are mounted on a back panel. A built-in gas pressure regulator and 100 per cent safety shutoff are designed in for gas control. The unit is attractively appointed and has many convenience features.



• Martin Stamping & Stove Co.

A cylindrical inner unit is a unique feature of the Martin incinerator. The design prevents warpage and deformation under elevated temperatures.

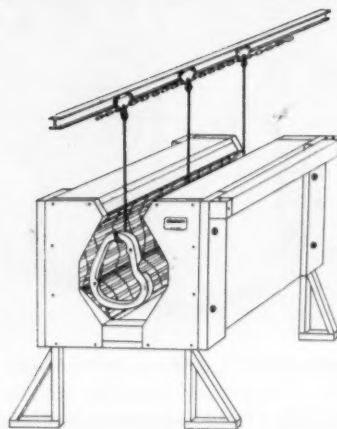
An integral "T" shaped main burner is fired directly under the waste charge with 12,000 Btu per hr. Smoke, odors, unburned bits and combustion products are conducted through a "curtain" of flame from a 23,000-Btu burner in a rear combustion chamber prior to exiting through flue pipe. Thus, the incinerator is both smoke-less and odorless.

A barometric draft control is built-in. No further draft control in the flue pipe is required.

Other features are high-temperature resistant porcelain enamel finish, simple installation, full insula-tion, and complete automaticity.

Like the other incinerators in this section, the Martin is made smokeless and odorless through the principle of secondary combustion which puts time, temperature, and turbulence to work to get complete combustion.

INDUSTRIAL EQUIPMENT



• John J. Fannon Products Co.

This new industrial unit uses the Perfection-Schwank Gas Infra-Red Heater to produce great flexibility in processing jobs. Such gas-fired, infra-red industrial processing equipment has surprising appli-cations such as:

- (1) Springs that take 30 minutes in a high-tem-perature oven can be normalized with infra-red energy on a conveyor belt in just 20 seconds.
- (2) Water dry-off on phosphatized steel is accom-plished in 48 seconds as opposed to 8 minutes.
- (3) Boiler plate ($\frac{5}{8}$ in.) temperature rise of 200 degrees in 2 minutes.

Fannon will work with oven companies to incorpo-rate this equipment in their units so that the order and fabrication are handled locally.

• Perfection Industries

Schwank infra-red generators were developed in Germany by Gunther Schwank, used extensively throughout Europe and manufactured in America by Perfection Industries, Division of Hupp Corp., Cleve-land, Ohio.

Operation of these new infra-red generators on natural, manufactured or liquefied petroleum gas is extremely simple. This is a 100 per cent primary air burner requiring no pre-mix or blower. Key to the generator's efficiency is the surface combustion of an air-gas mixture and a ceramic mat that operates at a temperature of 1650 to 1700 degrees F. This tem-perature gives a high radiant efficiency (about 50 per cent) and high heat transfer rate. The wave length is in the band most readily absorbed by the object on which it falls.

The Perfection-designed Schwank generators are grouped in eight multiple ceramic mats called ray-heads. The rayheads are assembled with aluminum

LOW BOY
radiant front



RVC SERIES

IN 7 SIZES

FROM 20,000 TO 65,000 B.T.U. INPUT

Peerless gas console heaters are available with counter flow blowers, automatically controlled, that give you warm floors in all parts of the home. These heaters are approved by the American Gas Association for use with natural, L. P., mixed, and manufactured gases.

Peerless **GAS CONSOLE**
HEATERS
WITH **Counter Flow Heat** OPTIONAL

VC SERIES

IN 8 SIZES

FROM 14,000 TO 65,000 B.T.U. INPUT

The Counter Flow Blower attachment fits the 45,000 to 65,000 B.T.U. Heaters, either open or closed fronts. It is complete with its own temperature control. The boost given by this blower distributes heat to distant rooms and maintains an even temperature between floor and ceiling . . . lower Ceiling temperature means less heat loss. Can be had initially with heater or installed later.

PEERLESS MANUFACTURING DIVISION
OF DOVER CORPORATION
LOUISVILLE 10, KENTUCKY

LOW BOY
closed front



GAS | *The modern fuel*
Peerless | THE MODERN HEATER



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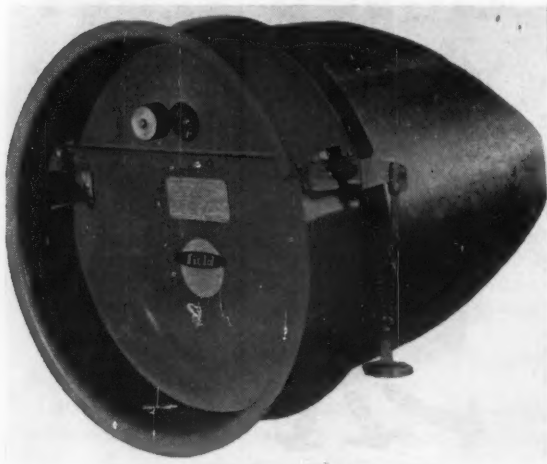
reflectors, which help direct the infra-red wave lengths to the surface to be heated. The thermostatically controlled generators may be overhead or sidewall mounted.

These units have been approved by the American Gas Association, Underwriters' Laboratories, and Board of Standards and Appeals, New York City.



They have proved to be popular heating units for all types of single-story commercial and industrial buildings. They heat the floor and equipment first regardless of the height at which they are mounted.

Perfection Schwank generators are solving many drying, processing and thawing problems in the metal, textile, chemical and food processing fields.



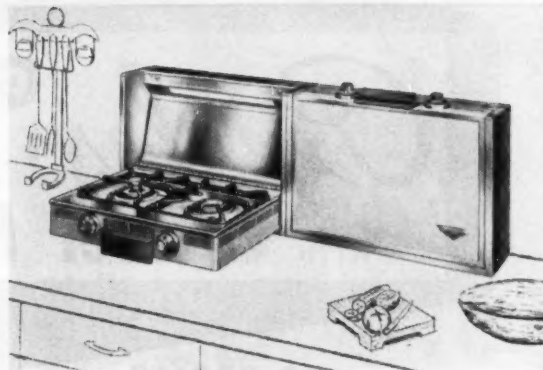
• Field Control Division

The Field M+MG2 is a precision, heavy-duty barometric draft control, designed for use on all-fuel industrial furnaces and boilers. It offers improved

efficiency with any fuel, especially during gas-firing, when it replaces the conventional draft hood.

And the M+MG2 offers these specific advantages over a draft hood: It permits a full range of firing rates to meet changing load requirements—from .002 in. to from .2 in. to .5 in., depending on size. It avoids the draft losses that occur during prolonged high fire periods with a draft hood. It also avoids the loss of prime that occurs during off-fire periods, and which results in fuel waste and spillage. The M+MG2 occupies only a fraction of the area required for a draft hood. It is ideally suited to gas-oil firing. It can be equipped with spillage-detecting switches if required by local codes. The M+MG2 is available in sizes from 10 through 32 in.

RANGES



• Dixie Products Inc.

A new concept of cooking appliance installation and convenience is revealed to the gas industry through the Dixie Gas Foldaway. The unit is a "built-in" counter-top cooking section with two gas burners that folds into its own slim, square-cornered cabinet when not in use. When folded away, the unit occupies less than 1 sq ft of counterspace.

Four gas burners can be put in less than 2 ft of counterspace. The counters are clear for kitchen work when the range sections are not in use. And there is no interference with drawer space since the unit is not recessed into the counter.

Foldaways may be used singly or in pairs in any number of convenient ways—side-by-side along the back of the counter, back-to-back on island counters, or with a free-standing range if additional burners are desired.

Other technical advancements designed into the units are thermostatically controlled top burners; automatic gas shut-off when the unit is folded away; continuously burning needle-point pilots; surface light that comes on automatically when the burners are lowered; convenience electrical outlet; and many others.

POWELL

world's largest family of valves



Fig. 8150—Bronze L. P. G. Globe Valve. Union bonnet, integral seat. Also available in Angle Valve pattern, and with nickel-bronze seat ring.

Fig. 86191—Steel L. P. G. Angle Valve. Union bonnet. Disc is special wear-resistant composition. Renewable screwed-in nickel-bronze seat ring.

Fig. 8375—Bronze L. P. G. Gate Valve. Union bonnet, inside screw rising stem. Either solid or split nickel-bronze wedge discs can be furnished. Integral seats.

Fig. 86196—Steel L. P. G. Horizontal Lift Check Valve. Screwed cap. Stainless steel spring, guided disc holder, and renewable, screwed-in nickel-bronze seat ring.

Fig. 8158—Bronze L. P. G. Horizontal Lift Check Valve. Screwed cap. Spindle guides on top and bottom of disc holder accurately guide disc to integral seat.

Fig. 86190—Steel L. P. G. Globe Valve. Union bonnet. Special composition disc; and renewable, screwed-in nickel-bronze seat ring.

Powell L. P. G. Valves are rated 400 pounds W.O.G., and are listed by Underwriters' Laboratories, Inc.

A solution for every kind of flow control problem is as near as your local Powell distributor. Powell valves are designed and engineered in the largest variety of metals and alloys, to handle any medium, every flow control requirement. There are Powell distributors in all principal cities. Or, if yours is a special engineering problem, write to:

THE WM. POWELL COMPANY • Dependable Valves Since 1846 • Cincinnati 22, Ohio

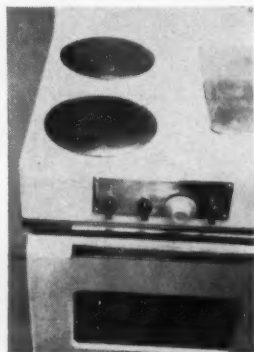
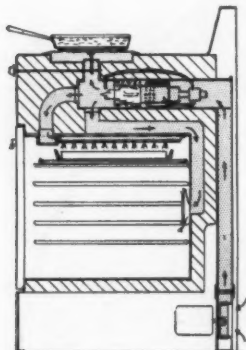


"PARADE OF GAS PROGRESS"

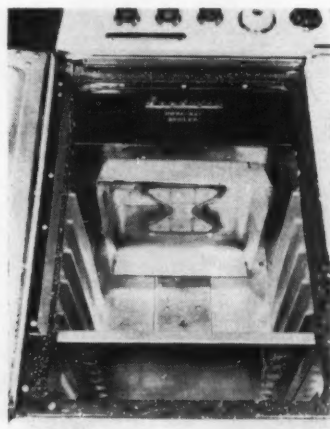
• Jet-Heet Inc.

This new range cooks with hot-air (though lower-than-flame temperature) stream impingement on food or utensils. The key is the relatively high velocity of the hot-air stream, and the basic principle involved is that of heat transfer coefficients increase almost linearly with velocity.

A motor-driven blower feeds air under pressure to a jet-type gas burner. Gas is burned with no primary air to give a low carbon dioxide component hot gas



at about 1000 degrees F. The hot air is conducted through insulated ducts and shut-off valves to perforated surface units, a perforated broiler and to the oven. The utensils are supported about 0.25 to 0.50 in. above the perforated plate in position for the high velocity jets to impinge directly to give high heat transfer coefficients. Fully automatic controls vary the gas input over an extremely wide range in order to keep the outlet temperature constantly at 1000 degrees F.



• Hardwick Stove Co.

The MicroRay is a new broiler burner that produces a charcoal-like red glow at a temperature of 1600 degrees F. Infra-red energy at three micron wave

length travels from the burner to brown and cook food with radiant heat.

The radiant burner is made from high porosity clay, with over 5000 outlets, as compared with 101 ports in cast iron burners for conventional convection heating in broilers. The material's insulation quality permits holding the burner's inside temperature to 450 degrees F while the burning side temperature is 1600. This design means no flash-back at very low burner-head pressures generated and permits 100 per cent primary air firing.

The broiler cavity and door are lined with aluminum. This reflects some 80 per cent of the radiant heat. The three micron wave length is excellent for cooking: hence, the MicroRay burner eliminates pre-heating (infra-red wave lengths behave like light to reach food immediately); cuts cooking time in half; cuts gas consumption for broiling in half; and outer walls, door handles and control knobs remain cool to the touch even during lengthy operation.



• Sunray Stove Co.

Remote operation of gas ranges is given to the gas industry with Sunray's Touch of Tomorrow push button remote control range. The remote control is accomplished electronically with the range being controlled by a small control box from a remote point. With this feature, the homemaker can turn the top burners on or off from any room in the house or the front yard or patio. And three of the top burners have a bank of push button controls on the backguard of the range. Eight switches are provided for each of these three burners; seven are for specific heats. The fourth burner is a thermostatically controlled "Burner with a Memory" type.

The range is equipped with a clock control that can be used for timed cooking in the oven or on the thermostatically controlled top burner.

New Mississippi Tank T-1 Titans "deliver up to 200,000 gallons a month!"

... says Mr. A. E. Moore, president
Dri-Gas Company, Hinsdale, Ill.

The extra payload of Mississippi Tank T-1 Titan delivery units adds up to higher profits every day for the Dri-Gas Company, Hinsdale, Ill. Dri-Gas has added eight high-capacity Titans since the first of the year and plans to convert its entire fleet to Mississippi Tank T-1 units.



The two main factors affecting operating costs—payload capacity and maintenance expense—are substantially reduced with Mississippi Tank T-1 steel units. Here's how: 1) the lighter weight of T-1 Steel allows you to haul extra payload per trip and 2) Mississippi Tank's advanced engineering techniques such as stress relieving, X-Ray testing and rigid inspection assure trouble-free operation and long lasting service.

Figure it out for yourself: compare the extra gallons per day you can deliver in a 3,075 wg capacity unit with those you now operate. Compare the costs-per-gallon for truck fuel, labor, depreciation, etc., and add up the extra dollars a Mississippi Tank T-1 unit will net you every day.

Let us show you how T-1 Steel equipment can pay for itself in a matter of months. Just use the coupon . . .



*Our Engineers
have wings!*

Wherever you are, whatever your problem, give us a call and we'll quote on equipment tailored to your needs.



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TANK COMPANY**
INCORPORATED
HATTIESBURG, MISS
Telephone JUniper 3-0262

MISSISSIPPI TANK COMPANY
Hattiesburg, Mississippi

☐ Give me without obligation an estimate of the number of months it will take for new T-1 Titans to pay for themselves in my fleet. I operate _____ delivery units, average capacity _____ wgs. We average _____ deliveries a month.

☐ Also send information on New T-1 Transport.

NAME _____

COMPANY _____

ADDRESS _____

CITY AND STATE _____

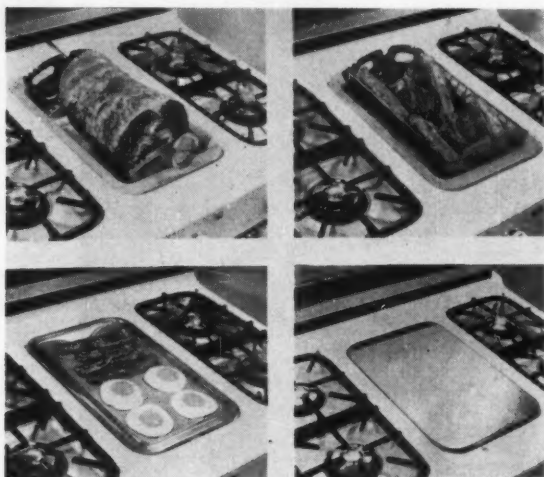


"PARADE OF GAS PROGRESS"

• Geo. D. Roper Corp.

A new technical development has taken the "Rotis-O-Grill" out of the broiler compartment and put it on the top section of three new gas ranges designed by Geo. D. Roper Corp.

The unit can be used for conventional barbecuing, broiling, and grilling on top of the range and can be fitted for rotisserie cooking. Heat for all operations is provided by two radiant-type gas burners, each inde-



pendently controlled. These new burners provide concentrated cooking heat without warming the kitchen.

The Rotis-O-Grill utilizes a sturdy spit with a built-in meat thermometer on the front end. This "Thermo-Spit" is designed to take the guesswork out of this type of modern cooking.

A thick, cast aluminum griddle replaces the rotisserie and broiler components for grilling.

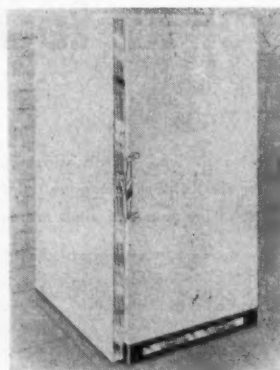
This new feature is available on Roper's newly designed 36-in. Gourmet range, and on two other 36-in. models in the 1958 line.

REFRIGERATORS

• Norco Inc.

The new Norco 5965 gas refrigerator features modern slimline styling. The compact dimensions (44¼-in. high, 24-in. wide, 28-in. deep) and clean, squared-off design of this approximately 7 cu ft capacity unit make it ideal for built-in installations. A reversible left or right hand door adds to its versatility.

The silent high-capacity Norcold refrigerating unit has no moving parts and delivers an even cold throughout the box. A cross-top freezer compartment provides low-temperature storage while a full-width crisper at the bottom keeps vegetables moist and fresh. An exclusive zip tube feature permits quick lighting from the



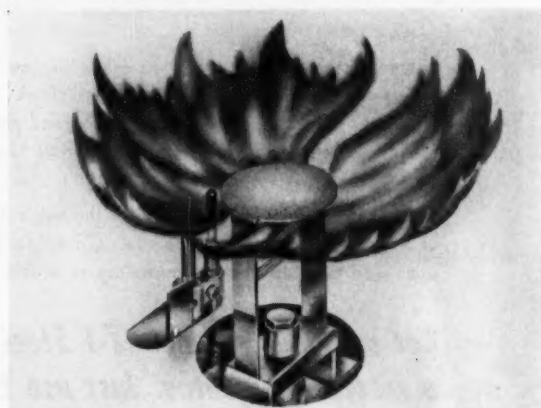
front and automatic safety controls are of the latest design.

The new Norco will be available in decorator colors with bright chrome trim for both natural and LP-gas models.

WATER HEATERS

• W. L. Jackson Manufacturing Co.

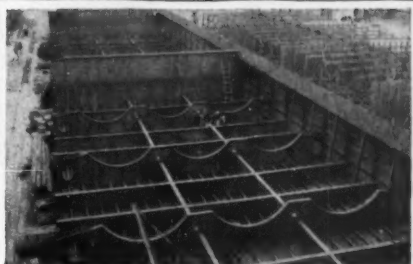
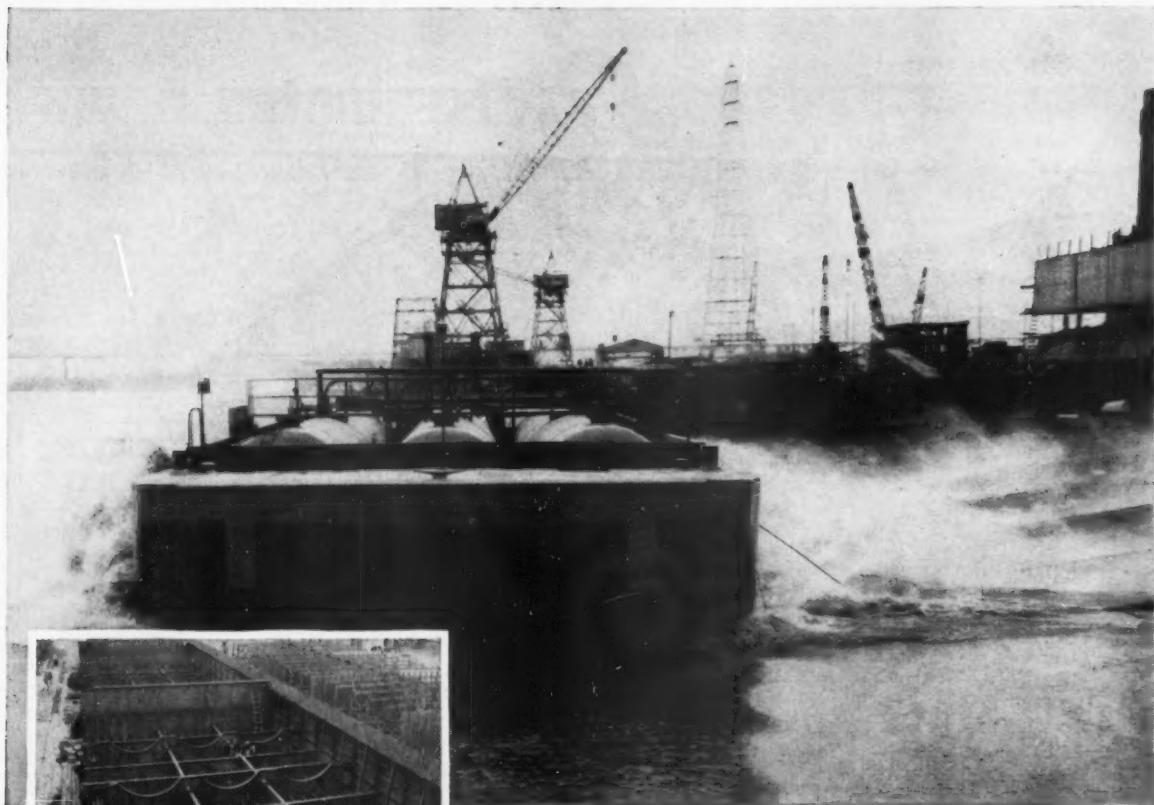
The "Magic Mix" is a new stainless steel gas water heater, impingement-type burner, embodying many advantages over the conventional Bunsen-type burner. The main improvements include elimination of air adjustments and the elimination of ignition and ex-



tion noises inherent on most Bunsen-type burners.

The "Magic Mix" burner has a perfect air adjustment designed into it, so there is no chance of flues sooting due to improper field adjustments. Since there is no venturi or burner ports to be clogged with lint or cobwebs, no field service is required for this burner. With nothing to get out of adjustment, this burner contributes to improved efficiency for the life of the heater.

The end of this section, but only the beginning of progress in the gas industry's never-ending parade.



Saddle Arrangement above was used to support barge's huge tanks, shown during installation below. Walls of each tank are over an inch thick. Each weld had to be X-rayed and the entire tank was run through an annealing furnace for stress relieving under intense heat.



Cities Service launches great new LP-Gas river barge

*Another reason why Cities Service LP-Gas
delivery is tops throughout the Midwest!*

With a capacity of 10,000 barrels of LP-Gas, Cities Service No. 1, the great new river barge shown above, marks a giant step forward in LP-Gas progress.

Certified by the Coast Guard to navigate the waters of the Mississippi, its tributaries, and even Lake Michigan, the new barge is another assurance of continuous supply and speedy delivery to Cities Service distributors.

In addition to superior delivery, Cities Service today offers distributors expert assistance in conversions and technical problems, accounting, credit, new business, routing, labor-management relations, collections, expansion, and fleet maintenance.

For more information, talk with a Cities Service representative from the nearest office.

SERVICE! . . . part of our name, part of our business

CITIES SERVICE
QUALITY PETROLEUM PRODUCTS

3435 Broadway Kansas City 11, Missouri	500 Robert Street St. Paul 1, Minnesota
20 N. Wacker Drive Chicago 6, Illinois	6611 Euclid Avenue Cleveland 3, Ohio
	170 University Ave. Toronto 1, Canada



By NEIL REGEIMBAL
Washington Editor



BPN Washington Report

From BUTANE-PROPANE News Washington Bureau

REA wins another victory by inaction

The debate over the future of the government's multi-million-dollar public-power subsidy, the Rural Electrification program, raged until the closing days of Congress this summer.

But the lawmakers left, the smoke cleared, the REA won another victory by inaction. Congress left the program untouched, and the government is preparing to pour a new record amount of money into the loan and operating funds.

Total government appropriations for the Rural Electrification Administration in the current fiscal year, which ends next June 30, will now top \$394 million.

This is some \$179 million more than originally planned. The increase, the U. S. Budget Bureau noted, is because "legislation proposed by the President to encourage private financing of the REA loan program and thereby reduce federal participation was not enacted."

The new dole for the REA anticipates loans during this 12 months of \$345 million. This is \$48 million more than in the last fiscal year because "borrowers are expected to draw more heavily (than last year) against loans previously approved."

Social security taxes go up in January

Employers start paying higher federal social security taxes next January 1.

Management will be stuck with a tax of 2½ per cent on the first \$4800 earned by each covered employee as a result of a new law. The same amount, \$120 per year, must be taken from each employee's earnings as their contribution to the social security trust fund. Self-employed persons earning at least \$4800 a year will now pay \$180.

New charity tax laws now in effect

New internal revenue regulations permit a retailer to deduct the full retail price of an article donated for charity.

Under the new rules, a merchant is allowed to deduct the "full market value" of any article donated to charity. Formerly, the deduction was limited to the cost of such an article to the merchant.

Under the new regulations, fair market value is described as the price at which the property would change hands between a willing seller and a willing buyer. This is modified somewhat for retailers to consist of the price a businessman would receive in the lowest reasonable market in the volume in which it is donated.

IRS officials warn that when a retailer deducts the

full retail price of an article, he must also deduct from his costs the original price. For instance, for an article which cost the retailer \$1.00, and normally sold for \$1.50, the retailer could deduct the full \$1.50 from his taxes, but could not claim the \$1.00 paid as a business expense.

Farmer's net income climbs to \$13 billion

Farm income is continuing its rapid recovery from the lean earnings of the past several years.

Farmer's realized net income—what they have left to spend after operating expenses—during the first nine months of this year climbed to an annual rate of \$13 billion. This is a whopping 19 per cent above the same period last year.

The higher income resulted from higher average prices for farm production, better production and sales, and larger government soil bank payments and other subsidies, which more than offset hikes in production costs.

Average cost of electricity continues to rise

The average cost of electricity across the country is continuing to edge upward, according to a recent report of the Federal Power Commission.

The Commission notes that the average electric bill as of Jan. 1, 1958, was 7 cents a month higher than on the same date a year earlier. This figure is based on residential electric service for 250 kw hr per month. Average residential use is now a little above this each month.

The average bill for commercial power last January 1 was \$162.88 for 6000 kw hr, compared with \$160.71 a year earlier. The industrial cost for 200,000 kw hr a month was \$3279 on January 1, compared with \$3235 a year earlier. The industrial average bill is the highest on record, some \$200 a month higher than in 1935.

ICC permits coal freight rate hike to go through

A bid by the southwestern coal producers to block a rail freight rate hike on coal because it would put them at a disadvantage with competing fuels has been turned back by the Interstate Commerce Commission.

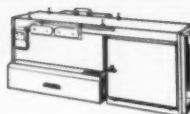
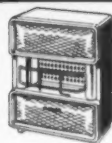
The coal producers asked the Commission to refuse to permit a 5-cents-a-ton increase to go through. They argued that the rate increase would put coal at a further competitive disadvantage with L.P. gas, natural gas, and oil.

The Commission, however, ruled that the rate hike would have little effect on coal usage, and noted that the prices of competing fuels also are likely to rise in the future.

Cut your costs with greater customer satisfaction!

TEMCO

... best-built, best-engineered gas heating equipment on today's market!



Temco-built for bigger profits!

The sheer ease with which you sell Temco gas heating equipment means greater profits right from the start! Your customers know the Temco name! They also know the value of Temco specialization which makes this famous, quality-built gas heating equipment cost less to own, less to operate! Your big plus to greater sales is this added promise: Temco gas heating appliances last longer, too! On every sale you make, you can assure your customer a written 20 year warranty on Temco's exclusive Ceramiclad* heat exchanger! Your promise... and Temco's written warranty to prove it!

Temco-engineered for fewer service calls!

The wonderful peace of mind with which you install Temco gas heating equipment means extra profits! Because, Temco engineering assures you, as well as your customers, of the most efficient, trouble-free heating equipment money can buy! All Temco gas heating equipment is designed to make your selling job a little quicker, a lot easier—in both farm and urban areas—where Temco gas heating appliances work perfectly... conveniently... and economically... on L.P. gas! **

** Operates equally well on natural and manufactured gas.

Temco-designed for more completeness of line!

The exceptional pride with which you write up your orders, and fill them immediately—with any of the models from Temco's 1958 line... the great, new line designed to help you reach every market... to help you sell in every price bracket!

TEMCO, Inc.

NASHVILLE 9, TENNESSEE

"Gas Heating Specialists for the Nation"



"THE COMPLETE LINE OF GAS HEATING EQUIPMENT"

ROOM HEATERS • FLOOR FURNACES • WALL HEATERS • UNIT HEATERS
WARM AIR FURNACES • AIR CONDITIONING • GAS WATER HEATERS

TEMCO SPACE HEATERS

Vented and Unvented (both radiant and circulator models)
Specifically designed for quick, small-area heating.

TEMCO "PIN-UP" HEATERS

New, unvented heaters that hang on the wall—with only 4 screws. Perfect for zone-controlled heating!

TEMCO "PRE-VENT" HEATERS

Pre-engineered thru-the-wall construction that requires no chimney, no recessing. Installs in any outer wall, at any level—even under windows!

TEMCO UNIT HEATERS

Compact units that provide maximum headroom in restricted areas; suspend from two pipe hangers. Ideal for commercial installations—service stations, restaurants, warehouses, etc.

TEMCO WALL HEATERS

Fit right into the wall between standard studding. Perfect for slab foundation homes. Provide ideal zone-controlled, single-story heating.

TEMCO FLOOR FURNACES

Exceptionally shallow construction permits easier, more economical installation. Mounts flush in the floor. No basement or costly excavation required! All Temco Floor Furnaces, regardless of BTU size—are only 25½" deep and controls are factory installed.

TEMCO CENTRAL HEATING SYSTEMS

A complete line... Hi-Boys, Lo-Boys, Counter-Flows, Horizontal and Gravity Furnaces, with a complete selection of sizes in each series. There's a Temco central heating system to fit any application—basement, crawl space, alcove or attic... including the amazing new

TEMCO PERIM-AIR-PAC

A completely packaged* gas forced-air system that uses the superior method of perimeter heating! Blankets outer walls with warm, clean, filtered air! Installs in only one day, with no major construction or labor costs!

*Includes ducts, registers and plenums.

Reach out now
... for all the
market! Mail
this coupon
today for
Temco's '58
catalogue—
featuring this
great new
sales-making
line!

TEMCO, Inc., Nashville 9, Tennessee

Please send me full, descriptive catalogue.

Name

Firm Name

Address

City Zone State

BTN-3



Appliance, equipment sales expected to show gains during 1958, through 1959

MANUFACTURERS of gas appliances and equipment expect their sales to show gains during the latter part of 1958 and through 1959, an industry survey reveals.

The study, managed by Edward R. Martin, director of marketing and research for the Gas Appliance Manufacturers Association, is summarized in his new "general business outlook" report. It shows that with the exception of a few product categories, sales in the second half of 1958 will top those in the corresponding 1957 period, and in 1959 volume will show additional gains.

Factors cited as a basis for optimism include the expansion programs of gas suppliers, the high level of housing construction and an expectation that in fields where uncertainties have prompted consumers to cut purchases, such actions will prove merely temporary deferments. Mr. Martin noted that 1958 sales have held up for such products as space heating and water heating equipment, while dipping for appliances such as ranges, refrigerators and dryers.

This, he said, was because equipment sales were for new construction or nondeferrable replace-

ments, while many consumers were inclined to let appliances "wait until next year."

A summary of estimated industry unit sales is shown in the accompanying table.

Dixie acquires Magic Chef; Dunn joins new division

Dixie Products Inc. has acquired most of the assets of the Magic Chef division of Food Giant Markets Inc. News of this important development came as a joint announcement by S. B. Rymer Jr., president of Dixie and Cecil M. Dunn, president of Food Giant and also its Magic Chef division.

"Although we consider this acquisition of Magic Chef as one of the most important events in the history of our company," Mr. Rymer stated, "it will in no way affect the long range growth plan and aggressive promotion of the Dixie line of ranges.

"We will operate Magic Chef as a separate division of our company with its own marketing organization," Mr. Rymer continued, "maintaining the veteran sales force that has served the Magic Chef dealers for many years. The Magic Chef division will continue its policy of concentrating exclusively on gas appliances."

TABLE I

CONSENSUS - INDUSTRY UNIT SALES

Second Half of 1958 and Calendar Year 1958

Compared with Sales for 1957 and First Half of 1958

	First Half			Second Half			Annual Data			% Change from 1958
	1958 (E)	1957	% Change	1958*	1957	% Change	1958*	1957	% Change	
1. Domestic Gas Ranges										
a. Free-Standing	766,300	878,500	-12.8	806,300	892,900	-9.7	1,572,600	1,771,400	-11.2	1,575,600 + 0.2
b. Built-ins (oven-broiler units)	97,500	92,400	+ 5.5	115,300	104,800	+10.0	212,800	197,200	+ 7.9	244,500 +14.9
c. TOTAL	863,800	970,900	-11.0	921,600	997,700	-7.6	1,785,400	1,968,600	-9.3	1,820,100 + 1.9
2. Automatic Gas Water Heaters	1,336,200	1,333,000	+ 0.2	1,343,500	1,199,000	+12.1	2,679,700	2,532,000	+ 5.8	2,732,300 + 2.0
3. Gas Central Heating Equipment										
a. Warm-air Furnaces	319,300	294,900	+ 8.3	445,800	407,700	+ 9.3	765,100	702,600	+ 8.9	841,700 +10.0
b. Boilers	40,700	39,300	+ 3.6	66,800	66,100	+ 1.1	107,500	105,400	+ 2.0	111,300 + 3.5
c. Conversion Burners	49,100	50,500	- 2.8	90,800	113,000	-19.6	139,900	163,500	-14.4	136,300 - 2.6
d. TOTAL	409,100	384,700	+ 6.3	603,400	586,800	+ 2.8	1,012,500	971,500	+ 4.2	1,089,300 + 7.6
4. Gas Vented Recessed Wall Heaters	149,300	130,200	+14.7	196,800	190,700	+ 3.2	346,100	320,900	+ 7.9	357,600 + 3.3
5. Gas Floor Furnaces	28,300	35,000	-19.1	45,100	55,200	-18.3	73,400	90,200	-18.6	71,600 - 2.5

Other Gas Appliances and Equipment Consensus, 1959 Compared with 1958 Unit Volumes

(E) = Estimated
* = Consensus

Gas Direct Heating Equipment	+ 9.3%	(Reported by 12 manufacturers)
Gas Fired Unit Heaters	+19.0	" " 15 "
Gas Duct Furnaces	+17.4	" " 7 "
Commercial Gas Ranges	- 6.7	" " 6 "
Gas Incinerators	+41.0	" " 9 "
Gas Clothes Dryers	+12.0	" " 7 "



EXTRA! TEXACO DISTRIBUTORS ASSURED OF DEPENDABLE SUPPLIES IN GROWING MARKET

In 1950, less than 3.5 billion gallons were sold. Estimated demand for 1960 is 8 billion gallons, 9.5 billion by 1965. More and more, LP-Gas Distributors with an eye to the future are teaming up with Texaco. Reason: They can count on dependable supplies in a fast-growing market.

Texaco Distributors will get their full share of the increasing demand. Top quality, moisture-free

Texaco LP-Gas wins immediate acceptance because Texaco's reputation is nationwide. Another plus—Texaco offers tailor-made, hard-hitting advertising for the distributor.

There's a solid future ahead for Texaco Distributors. Proof: 683 distributors of Texaco products have been with us for 20 years or more—many others for as long as 45 years.

5 reasons why it pays to be a TEXACO LP-Gas Distributor

1. A product of highest quality.
2. Dependable and efficient delivery, in a new fleet of tank cars—from 25 strategically located production areas.
3. Immediate acceptance. Texaco LP-Gas carries the nationally-known, famous trade-mark, Texaco.
4. One of the largest producers of LP-Gas, The Texas Company is the only petroleum company to build up successful distribution of its products in all 48 states.
5. Profitable and proved sales policies. Texaco markets only through independent distributors.



Some areas are still open for a sound and profitable business with Texaco LP-Gas. Let us tell you how.



TEAM YOUR NAME with Texaco and profit . . . faster! Call or write Texaco today . . . The Texas Company, LPG Sales Division, P. O. Box 2420, Philtower Bldg., Tulsa, Okla., Diamond 3-4101—929 South Broadway, Los Angeles, 5, Cal., DUNKIRK 5-0515.



S. B. Rymer Jr., president of Dixie Products Inc. (center), seals the acquisition by Dixie of Magic Chef. Others witnessing the agreement are Cecil M. Dunn (seated left) representing Magic Chef and (standing, left to right): Leroy Rymer, Robert Rymer and H. L. Dethero, all of Dixie.

"I am delighted," commented Mr. Dunn, "that this union with Dixie, a company already demonstrating a strong growth trend, will place one of the oldest and finest brand names, Magic Chef, in the strong market position it merits. It is the best possible development for the long range interest of Magic Chef as it concerns our dealers, our salesmen and the many thousands of homemakers, who continue to show a strong preference for our brand."

Mr. Dunn is joining the new division of Dixie as a consultant on marketing Magic Chef products, and special assistant to the president of Dixie.

Fuelane reorganizes operating territory

Fuelane Corp., Liberty, N. Y., marketers of Happy Cooking Metered Gas Service throughout seven states from Maine to Maryland, has announced a new decentralization program which should provide a closer working relationship between all Happy Cooking licensed associates and the company.

Fuelane's operating territory has been divided into three geographic divisions: New England, New York, and Pennsylvania-Maryland. Each region will be under the supervision of a division manager who will be responsible for

all the company's business and personnel in his division.

Clyde Street has been appointed division manager of the Pennsylvania-Maryland division and will relocate in the vicinity of Harrisburg, Pa. Sterling Smith will be assistant division manager assisting Mr. Street.

Court Turner has been appointed New England division manager and will make Portland, Maine, his base of operations. Edson Waite will be district manager for Central and northern Maine and Royce Morse for southern Maine, New Hampshire and eastern Vermont under Mr. Turner.

John Ganey will become New York division manager. Dick Candlish has been appointed New York assistant division manager as well as district manager of northern New York and western Vermont. Fred Ballard will be district manager for the same area. Bob Lewis has been appointed eastern New York district manager. Port Ferris will become the district manager for the central New York State region.

Newton Hovey has been appointed retail sales manager for the Sidney-Edmeston area and will assume the field service representative's duties for associates served by the Sidney bulk plant. Ken Drobner, presently Albany district retail sales manager, will continue in this capacity and will assume the field service representative's duties in this general area.

Roy Johnson, vice president of Fuelane, has been given the responsibility of administering and coordinating the work of the three division managers.

Anchor Petroleum Acquires Petrolane of New Orleans

Anchor Petroleum Co., Tulsa, Okla., has acquired controlling interest in Petrolane Gas Co. and its subsidiaries, New Orleans, it was announced recently by W. A. Baden, president of Anchor.

Petrolane is a large domestic distributor of L. P. gas in Louisiana, Mississippi and Alabama.

W. U. Moss Jr., who has been associated with Petrolane in management capacities for many years, will be executive vice president and general manager. The key personnel of Anchor will become officers and directors of Petrolane.

Petrolane will continue its operating headquarters at New Orleans.

Honeywell employees turn salesmen; boost business

The 13,000 persons employed by Minneapolis-Honeywell Regulator Co. in its Minneapolis plants turned salesmen to help improve the firm's business—and in two months they sold more than \$20,000 worth of controls!

Under a company-sponsored "Star Salesman" program the Honeywellers—approximately 8000 of them production workers—made a concerted effort in their off hours to influence friends, relatives, heating dealers and builders to install all-Honeywell control systems in homes and other buildings.

"We started this program as an experiment and were really amazed by the effectiveness of our



Payoff for top salesmen in Honeywell employee selling program is made by Tom McDonald (left), executive vice president. He is shown with (left to right), Donald F. Jaeger, top 'Star Salesman' who won \$100 in initial program; James H. Binger, Honeywell vice president, and B. C. Benson, who won \$50 as second prize winner.

all seams double welded and triple inspected

highest quality steel . . . two coat finish

meets ASME requirements
bears UL label

6" weld on lifting lug can't pull off

delivered BONE DRY

All sizes and capacities through 1,000 gallons

A MASTER TANK

A MASTERPIECE OF STEEL FABRICATION
THE BEST TANK MONEY CAN BUY

...yet it costs less to sell



SHIPPED FROM QUINCY OR DALLAS
ALL LP GAS PRESSURE VESSELS SOLD
AND STOCKED AT BOTH MASTER
PLANTS

Don't keep costly inventories. Sell a tank today and it will be placed on shipment the same day. Overnight shipments from either Master plant can be made to practically any point in the United States. Less freight costs means lower prices. Order from your nearest Master plant . . . QUINCY, ILLINOIS or DALLAS, TEX.



MASTERPIECES OF
STEEL FABRICATION



2000 S. Front St. • Quincy, Illinois • BAldwin 3-5014
P. O. Box 5146 • Dallas, Texas • Riverside 7-2441

Order your storage and transports from the Master plant nearest you. Shipments made by truck, railroad or low cost river barge.



TRANSPORTS



TANK TRUCKS



STORAGE



DOMESTIC



FILLING STATIONS



FARM CARTS



REFINERY



LINE PIPE

'amateur' salesmen," said Tom McDonald, executive vice president of Honeywell. "They succeeded in influencing several builders and manufacturers who previously were unresponsive to our regular sales personnel."

Donald F. Jaeger, a production control worker, won the \$100 grand prize by persuading a builder to use Honeywell controls in more than 700 homes being built in the Minneapolis area and in Florida (Mr. Jaeger was credited with 10 sales alone during another two-month contest).

Propane provides comfort for touring Britons

Propane supplied by Suburban Propane Gas Corp., is the fuel that will be used for light, as well as cooking and refrigeration, on the "Chudbus" as it winds its way through New England. A serviceman from the company's Whippany, N. J., office, ready to make the necessary propane installation, awaited the arrival of the nine members of the Chudley household and their "Home in America" when they landed in New York City on August 21 aboard the ocean liner *Hanseatic*.

Original contact with Suburban was made through BUTANE-PROPANE News. Mr. Chudley wrote to BPN, explaining his family's need of having a cylinder of LPG waiting for them at the dock. BPN put the Chudleys in contact with Suburban.

The "Chudbus" is a 20-year old transportation bus which Mr. & Mrs. M. J. Chudley of Hackleton nr. Northampton, England (60

miles north of London), purchased for 200 lb and converted into living quarters for themselves, their six children and a nursemaid. It is equipped with a gas cooker (two burners, oven and broiler), a gas refrigerator, gas lights, a hanging cupboard which holds 30 gal. of water, a sink, toilet, six bunks, divan and hideaway bed. The bus is divided into three sections by venetian blinds to afford privacy in the sleeping quarters.

Their first and only scheduled stop was at Northampton, Mass., where they delivered greetings to the Mayor of that city from the Mayor of Northampton, England. Although their plans for the remainder of the tour were indefinite, they were able to obtain refills of propane at the various Suburban Propane district offices.

Mr. Chudley, who attended Herbert Hoover High School, in Glendale, Calif., for two years, said that this trip fulfilled a desire to introduce his family to America and the American people. He first came to the U. S. in 1940 when children were being evacuated from England, and returned two years later to join the draft.

Christmas promotion to be fired by the MacMurrays

Selected as the film capital's best-loved and most widely respected couple, Fred and June MacMurray will spark the gas industry's \$3 million "White Christmas" campaign, which shifts into high gear in November.

Plans outlined by S. F. Wikstrom, director of AGA's PAR Plan, indicate that the 1958 "White Christmas" promotion will be more elaborate than last years.

The MacMurrays will team up with the newest gas appliances in TV commercials to be presented on the industry's "Playhouse 90,"



The stars of this year's "White Christmas" appliance promotion program, June and Fred MacMurray, show the cover design for the brochure which outlines the holiday merchandising program for gas companies, appliance manufacturers and retail dealers.

beginning about seven weeks before Christmas. They will also be featured in local TV commercials and radio spots which AGA will make available to companies participating in the industry's national television program.

They are playing starring roles in a 10-minute film which is currently being shown before appliance dealers throughout the country. Fred and June are using the film approach to describe AGA's complete Christmas merchandising program, showing dealers how to tie in with the campaign.

In addition, the MacMurrays will be featured in full-color, full-page ads in seven leading national magazines, supplemented by extensive advertising in newspapers, gas trade journals, general retailing papers and dealer publications.

AGA also is producing an impressive array of special promotional materials to spur local appliance sales. These include floor and window displays in full color, 24-sheet outdoor posters, movie trailers, counter and point-of-purchase displays, bus and truck cards, 16 mm dealer films, newspaper ad mats, premiums and gift certificates, contest material and publicity kits.

Various rates at which rust proceeds determined

The comparative rates at which rust proceeds in different parts of the country, have been exactly

Mr. and Mrs. Chudley and their six children get all the comforts of home with propane while touring New England in their 20-year old transportation bus.





Anchor gives thanks aplenty for the many good years we have enjoyed in this fabulous L.P.G. business. We thank you, our customers for the participation you have allowed us. We want to do even more. We are expanding our facilities to include a fleet of truck transports to give even better service in some areas. We offer our experience, staff and facilities in whatever capacity they can serve you best.

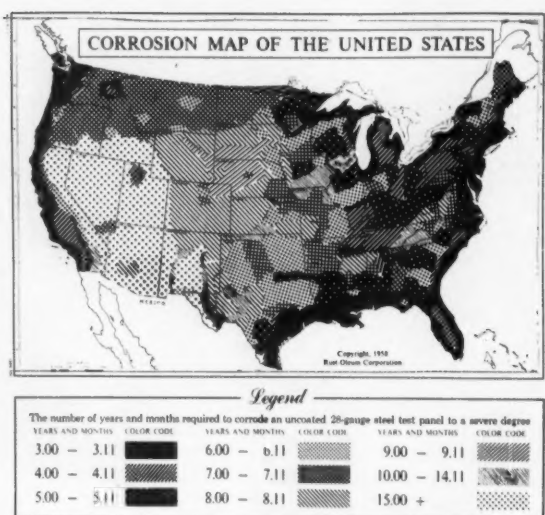
Please call on us — Tulsa CHerry 2-7261.

ANCHOR

PETROLEUM COMPANY • TULSA

SALES OFFICES: Toledo, Sioux City, St. Paul, Shreveport, Hattiesburg, Gulfport, Savannah, Oklahoma City, Houston, Midland, Long Beach, San Francisco, Seattle, Calgary

Map shows the rates at which rust proceeds in different parts of the country. Thousands of dated and uncoated test panels of 28-gauge steel were left exposed at industrial sites throughout the country to establish the rate of rust in each locality.



established for the first time for all United States cities over 10,000 population.

It takes three years, the fastest rate in the country, for rust to corrode a standard, uncoated steel test panel, the size of an auto license plate, in four different cities—Buffalo and Rochester, N. Y.; Erie, Pa.; and Miami, Fla. Slowest rust rate, more than 15 years, is in Tucson, Ariz.; Roswell and Santa Fe, N. M. In all the nation's major industrial centers the rust rate is under four years.

This was disclosed recently in the Rust Index of the United States published by the Rust-Oleum Corp., Evanston, Ill. The Index, the result of a 25-year research program, lists the 523 cities of the country with a population of more than 10,000 and the comparative rust rate for each city.

Rust-Oleum, which produces rust-preventing coatings, estimated that the nation's rust bill is currently about \$7½ billion per year, an increase of \$2 billion over the annual toll 10 years ago.

Signal Oil & Gas and Hancock Oil in merger

Details of a merger of California's two largest and oldest independent oil companies are being worked out, according to an announcement made jointly by Samuel B. Mosher, chairman of the board, and Russell H. Green, president, Signal Oil & Gas Co., and John W. Hancock, president, Hancock Oil Co.

Unanimous agreement has been reached by the directors of the two

companies for joining the two organizations into one integrated unit. Signal is to be the surviving corporation after stockholders have ratified the agreement on the basis of the exchange of one share of Signal for one share of Hancock.

Mr. Mosher will be chairman of the board and chief executive officer and Mr. Green will continue to serve as president. Present members of the board of both companies are to be named to the board of the merged company.

Both organizations are marketers of petroleum products. Their total natural gasoline and liquefied petroleum products production is approximately 12,500 bbl per day.

LPGA publishes bulletin on tank car dome fitting

An illustrated placard on tank car dome fitting inspection and maintenance has been published by the LPGA. The 22 by 28 in. bulletin is intended for posting at L. P. gas loading and unloading racks.

The bulletin was developed by LPGA's transportation committee and carries the endorsement of the Bureau of Explosives of the Association of American Railroads.

The publication is titled "Inspection and Maintenance of Dome Fittings on L. P. Gas Tank Cars Before, During and After Loading." It gives detailed instructions and shows a diagram of the dome and its fittings.

Single copy price is \$1.10 with order. Postage paid. Special quantity prices are available. Write the LPGA, 11 So. LaSalle St., Chicago 3.

Uregas opens bulk plant in Kirksville, Mo.

K. H. Dickson, vice president and general manager of the Uregas companies, announces the opening of a new modern design 10,000 gal. bulk plant in Kirksville, Mo.

Marvin Vogler has been transferred from the Moberly, Mo., plant where he was a driver-salesman, to Kirksville as operations manager of the new plant.

The new plant will service Uregas customers in approximately a seven-county area in north central Missouri. The addition of the plant makes 19 plants now operated by Uregas in the eastern ½ of Missouri and in western Illinois, comprising an area of approximately 90 counties.

R. E. Rasmuson, manager of the Rolla district, announces the promotion of Lee Hargis to district operations manager for that district. Mr. Hargis was formerly operations manager for the Waynesville, Mo., plant.

Mr. Hargis will headquarter at Rolla, and will be in charge of operations of plants at Rolla, Eldon, Versailles, and Waynesville, Mo.

Richard Russell to head Rapid Thermogas ads

Richard Russell, assistant to the president, is now in charge of advertising for the Rapid Thermogas Co., Des Moines.

During the past few years, Mr. Russell has worked in the company's sales department, personnel and advertising departments.

Mr. Russell is a member of the board of directors of the Lakes Propane Gas Co., Minocqua, Wis., and is a member of the market research committee of the LPGA.

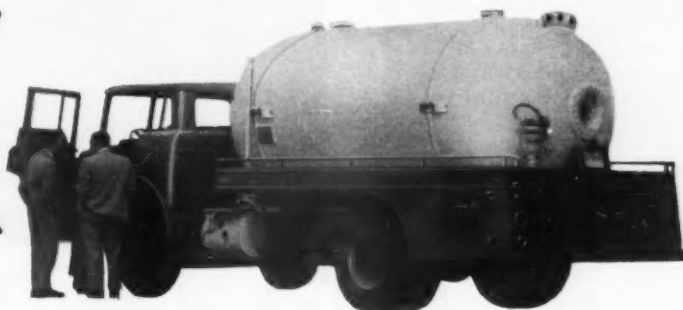
Motel magazine tells benefits of L. P. gas

"Do You Have the Fuel Facts on L. P. Gas?" is the headline on a two page article telling the benefits of LPG for motels in the September, 1958 issue of *Tourist Court Journal*, a leading national motel magazine. BUTANE-PROPANE News supplied much of the information and all of the photographs for the article which will be read by 24,000 motel owners and operators throughout the United States.

"Most motels have access to either natural gas, electricity, oil or other fuels. But all motels,

You're paying for a Trinity T-1 Truck Tank!

...why don't you get it?



You are paying for this Trinity Model 204 Special truck tank in labor — in time — in service — with your conventional heavyweight steel truck tank. Let Trinity show you how to move up to a Trinity 3000 Gal. T-1 — the increased payload will pay for the difference in cost over a conventional unit in less than three months!



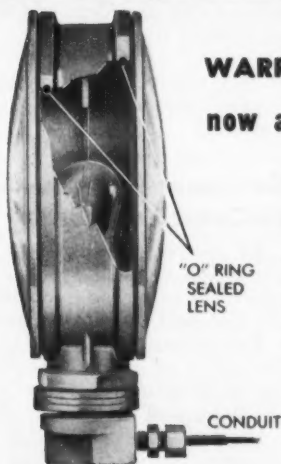
TRINITY STEEL CO., INC.

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Latin American Division: Tanques de Acero Trinity S. A., Calle Poniente 150, #734, Mexico 16, D. F. Plant and Sales Office.



the ULTIMATE in trouble-free vapor proof SAFETY LAMPS



WARREN *Snap Seal* TURN SIGNAL B-90 now a vapor-proof double faced directional

- ✓ RUGGED 1 3/16" STUD ... threaded for conduit
- ✓ LENS PRIES OFF ... SNAPS ON quickly
- ✓ SEALED LENS AND SOCKET
- ✓ LONG LIFE
- ✓ MINIMUM MAINTENANCE

SEND
TODAY

BETTS

MACHINE CO.
WARREN, PENNA.

TYPICAL LAMPS -- A COMPLETE LINE



B-90 Turn Signal



B-40JL Lic., Stop, Tail, Jct. Rte.



B-50L License, Stop, Tail



B-60 Clearance



B-70A Stop and Tail

Send us your Free Catalog

Name _____
Address _____
Company _____
City & State _____

whether located in town, in the suburbs or out in the country can enjoy the variety of conveniences afforded by modern, automatic, dependable liquefied petroleum gas," reads the second paragraph in the article written by *Journal* staff editor Gene Maxwell.

The article continues to tell what LPG can be used for in a motel, what LPG is and where it comes from, advantages of LPG, a description of LPG dealers and their operations, and several case histories of motels presently using LPG. Five photos are featured.



A sea-tow of gas storage tanks passes the Miami skyline at the start of a 1100 mile trip to San Juan, Puerto Rico. The four 50 ft tanks (three shown), each of 30,000 gal. capacity, were made by a division of ACF Industries, Milton, Pa., for Tropical Gas Co. of Miami for installation in a propane gas storage terminal near San Juan. They had made the trip from Milton to Miami by rail. The operation is expected to save the customer an estimated 40 to 50 per cent over shipment by freighter from a northeastern seaboard port.

Make **BLACKMER** *Rotary PUMPS*

the heart of your
LP-GAS
handling system

For safe, dependable service, no other pump gives you so many valuable features

- ★ Ideal for truck, bottle filling or bulk plant installation.
- ★ Heavy duty, anti-friction bearings at both ends of the shaft — completely protected from the pumpage.
- ★ Cartridge-type mechanical seals protect bearings and eliminate packing gland maintenance.
- ★ Non-metallic sliding vanes — "self-adjusting for wear."
- ★ Easily replaced wearing parts.
- ★ Differential pressures up to 100 psi and hydrostatic pressures up to 1250 psi.

WRITE FOR BULLETIN 500



"liquid materials handling"® equipment

BLACKMER

BLACKMER PUMP COMPANY, GRAND RAPIDS 9, MICHIGAN

See Yellow pages for your local sales representative

C. W. Guy rejoins General Gas Corp.

Charles W. Guy has rejoined General Gas Corp., Baton Rouge, La., as executive vice president and as a member of the board of directors, according to Hal S. Phillips, president.

Mr. Guy will serve in similar capacities with Delta Tank Manufacturing Co. Inc.

Mr. Guy held the position of executive vice president and director of General Gas prior to his resignation in 1954. He since has served as vice president and treasurer of Texas Natural Gasoline Corp. of Tulsa.

Consumer folder available to Council members

An inexpensive consumer folder promoting major L. P. gas applications is available to members of the National LP-Gas Council.

The folder is said to be ideal for use as an envelope stuffer and for distribution at fairs, demonstrations, and in stores.

Printed on light green paper and die cut in the shape of an L. P. gas tank, it joins a family of direct mail pieces similarly designed.

Sale of the handout is restricted to companies that support the Council program.

NEWS NOTES

A new plant, directly across the Ohio River from Portsmouth at Siloam, Ky., is under construction by the Columbia Hydrocarbon Corp. The plant will refine butane, propane and ethylene products from raw materials piped in from Kenova, W. Va. It is scheduled for completion December 1.

Globe Gas Corp. has completed installation of its third L. P. gas bulk plant during 1958 at 1653 E. Main St., Brawley, Calif., to serve Imperial Valley. R. L. Cole, president, advises A. C. Tarvin is manager of the new installation. Other plants completed this year are in Bakersfield and at Globe's headquarters in Long Beach, Calif.

Gas-fired heavy-duty forced air heaters is one of the fastest growing branches of the heating industry, according to GAMA. GAMA defines such equipment as direct-fired heaters, or heat diffusers, with capacity in excess of 500,000 Btu per hour output. Heaters in this category using gas, or gas in combination with oil, probably will account for a 1958 production total aggregating well over 3 billion Btu output.

Albert H. Cote, president of Suburban Appliance Co., Whippany, N. J., announces the release of the largest Fall consumer advertising and merchandising program for Novent-Dynavent gas heaters. Among the magazines in which advertising will appear are the *Saturday Evening Post*, *Better Homes & Gardens*, *Time*, *Living for Young Homemakers*, *Home Modernizing Guide*.

A "Trade Out" program has been inaugurated by Arkla Air Conditioning Corp. which will provide for the replacement of the older Servel units with new Sun Valley model gas air conditioners. Arkla is (1) setting "Trade Out" prices for Sun Valley replacement of older units manufactured by Servel, which have experienced a failure for reasons covered by warranty, and (2) giving "Trade Out" credits on all other units, such credit to be based upon a specific percentage of each utility's planned purchases for the remainder of 1958 and continuing through 1959.

THREE BASO® SPACE SAVERS

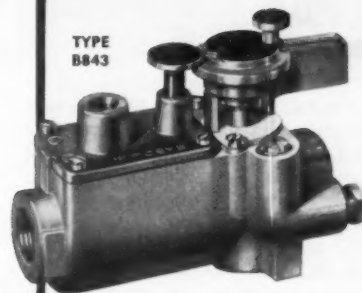
These three Baso Automatic

Pilot valves take care of space heaters, room heaters, floor furnaces, and other appliances with $\frac{3}{8}$ " or $\frac{1}{2}$ " manifolds.

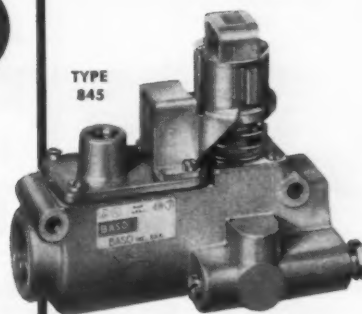
They fit into a space only a fraction more than 4" long.

Handle, lock pin, and pilot adjustment screw are placed at the top of the control for easy access and simplified installation. Lock pin in handle prevents accidental turning off.

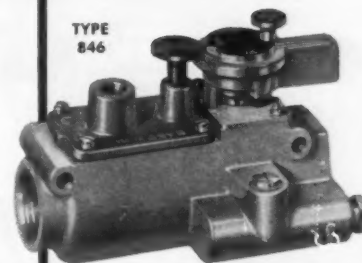
Put one of these new Baso thermoelectric valves on your new design.



TYPE
8843



TYPE
845



TYPE
846

BRIEF SPECIFICATIONS

Model	Inlet and Outlet	Btu/hr. at 1" P.D.
8843	$\frac{3}{8}$ " F.P.T.	88,800
845	$\frac{1}{2}$ " F.P.T.	162,800
846	$\frac{1}{2}$ " F.P.T.	162,800

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THE TRADE

FRANK KOHLES has been named general sales manager of the William Wallace Co. Until his recent appointment he was sales manager of the company's Metalbestos division. He joined the company in 1950 as a sales representative. ROBERT MCHUGH has been named Mr. Kohles' assistant. He was formerly manager of the Southern California district for the Metalbestos di-

vision and has been with the company since 1950. Prior to his recent promotion, he was sales manager of the company's Standard Line division.

ROBERT K. MILLER, formerly manager of General Electric Co.'s home heating and cooling department, has been named president of the Holly-General division of the



Frank Kohles
Wm. Wallace



R. K. Miller
Holly-General

Siegler Corp. Mr. Miller began his industrial career in 1939 when he joined the Allison division of General Motors in the production control department. He was with GE for 11 years.

Minneapolis-Honeywell Regulator Co. has promoted three men to administrative sales positions in its commercial division, and has named a new manager of its Chicago factory. F. W. BORSE, who has been with Honeywell since 1934 has been transferred to the executive offices in Minneapolis to be manager of the commercial division's service and installation department. He has been succeeded as Chicago factory manager by H. S. OLSEN, formerly director of personnel and industrial relations for the firm's Minneapolis plants. HAL CANOYER, central regional commercial manager in Cleveland since 1946, and WILLIAM WRAY, former sales engineer in the Washington branch office, also have been transferred to the home office staff.



F. W. Borse
Honeywell



C. D. Allison
Dearborn Stove

C. D. ALLISON has been elected executive vice president by the board of directors of Dearborn Stove Co. He began his association with Dearborn as purchasing agent in 1946. During his 11 years with the company, he advanced to supervisor of purchasing and sales; assistant general manager; vice president and general manager of the Southern division; and vice president in charge of production, the position held prior to his recent promotion.



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B. E. Patton
Sid Richardson



E. Q. Beckwith
Sid Richardson

E. Q. BECKWITH has been promoted from sales manager to vice president in charge of sales for Sid Richardson Gasoline Co. Also announced is the promotion of **B. E. PATTON** from administrative assistant at Fort Worth to manager of the Minneapolis sales division and **L. M. BROWN** to administrative assistant in charge of scheduling and shipping section at Fort Worth, Texas.

A. G. HANDSCHUMACHER has been appointed to the newly created position of corporate director of research and development for Rheem Manufacturing Co. He also continues in his post as vice president and general manager of Rheem's electronics division.

FORREST S. WARREN has been appointed vice president of Texas Natural Gasoline Corp. In his new position, he will continue to devote the major part of his time to administrative work in the operation of the Gulf Coast division of Texas Natural. He will also be in charge of all company sales to the refining and petrochemical industries throughout the Gulf Coast and Eastern Seaboard. He joined the company in November 1954 as sales representative and was later promoted to Gulf Coast manager.

WILLIAM LANXNER has been appointed supervisor, media and product publicity, plumbing and heating division of American-Standard. He succeeds John C. Adams, who was recently promoted to manager of communications services in the American-Standard public relations division. Mr. Lanxner comes to American-Standard from the advertising department of Bakelite Co., division of Union Carbide Corp., where he headed product publicity.

C. HILLYARD MUNCY is promoted to supervisor of the newly-created mobile transportation division and assistant to Fred Shellhorn, vice

president in charge of traffic and transportation for Anchor Petroleum Co. Mr. Muncy, with Anchor since May 1953 in the traffic and transportation department, will divide his time between the Anchor offices in Tulsa and in Shreveport.

HOWARD J. EVANS, chief engineer, Rockwell Manufacturing Co.'s meter and valve division, has been promoted to manager of engineering and research for all gas products. Mr. Evans' new position will include the supervision of the recently expanded engineering facilities at Rockwell's DuBois, Pa., meter division. With headquarters at the DuBois plant, he will work

with the engineering, research and development programs at plants in Norwalk, Ohio; Tulsa, Okla.; Statesboro, Ga.; Porterville, Calif.; and Guelph, Ont., Canada.

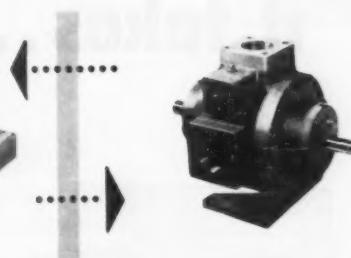
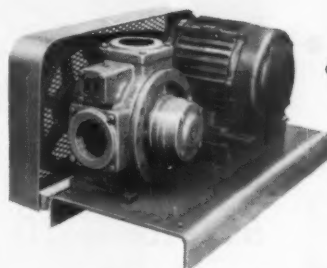
RICHARD G. BECKER has been appointed manufacturer's sales representative for the state of Florida by Chambers Built-Ins Inc. Prior to joining Chambers, Mr. Becker was sales manager of the Clark division of McGraw Electric Co. for nine years and field sales manager of Preway Inc. for three years.

Also announced is the appointment of **JOE MARSALISI JR.** to dis-

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THE DUMP**



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trict manager. He will contact builders, dealers, jobbers and distributors in the state of California for Chambers.

FRED E. WELDON has been appointed vice president in charge of eastern sales for General Controls Co. He joined General Controls in 1946, and has been sales manager with headquarters in the middle west since 1952. Mr. Weldon has been active on technical committees of the AGA and has served as vice chairman of the controls division of GAMA.



F. E. Weldon
General Controls



K. E. Crenshaw
Cities Service

KIRBY E. CRENSHAW was elected president of Cities Service Oil Co. to succeed HARRY D. HANCOCK, who is retiring. Mr. Crenshaw has

occupied the post of executive vice president since November 1956. Mr. Hancock had been associated with the Cities Service system in various capacities since 1912. Mr. Crenshaw began his career with the company as a junior engineer in 1930.

EDWARD ELLIOTT, JR., has resigned as manager of Pressed Steel Tank Co.'s L. P. gas division to join Cambridge Corp. of Lowell, Mass., as sales vice president. The firm, a subsidiary of Carrier Corp., builds equipment to transport, pump and store L. P. gas at temperatures approaching absolute zero.

CHARLES D. MITCHELL is district sales manager for American Meter Co.'s New England territory. He will manage the company's New England sales activities with headquarters in Boston. Mr. Mitchell has been associated with American Meter for 37 years in manufacturing and sales capacities.

GERALD MCGREW has been elected as a vice president of Cities Service Oil Co. He steps into the vice presidency from management of the company's crude oil supply di-

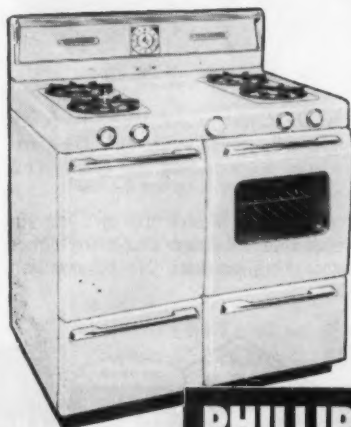
vision. He joined the company in 1940 as a valuation engineer. He was elected a director of the company in 1955.

ROBERT P. RICKER and JOHN W. FLYNN have been named to new managerial posts with Pressed Steel Tank Co. Mr. Ricker, formerly New York district manager, has been reassigned to the Chicago district office as manager. Mr. Flynn, who recently joined the company, has been made New York district manager. Appointments are effective immediately.

ROBERT C. KUMLER, former advertising manager for Oklahoma Natural Gas Co., has been named vice president of the Beals Advertising Co. He joined the Beals company, which specializes in advertising materials for the gas industry, September 1.

DANA M. NORTON has been elected vice president of industrial relations for the Ohio Injector Co. Mr. Norton was previously with Curtiss-Wright Corp. where he was director of industrial relations at Utica, Mich. Before that, he was an industrial relations executive with Ford Motor Co.

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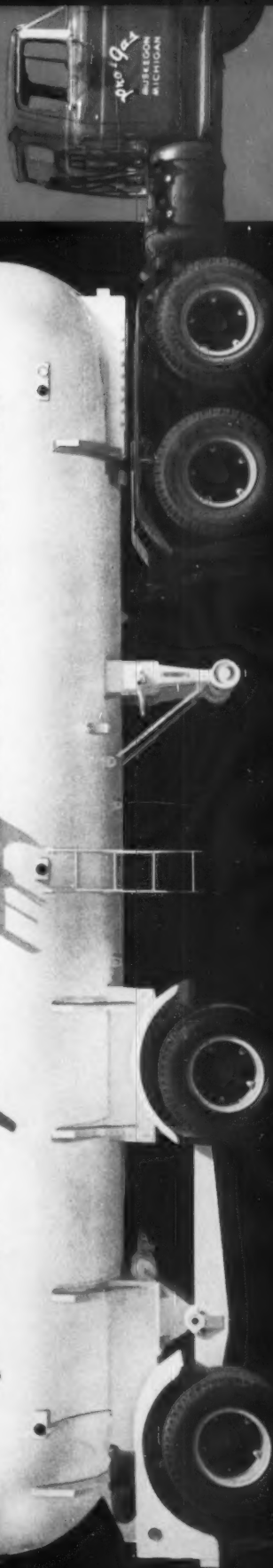
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Check the extra value built into a Beaird T-1 Steel Payliner.

Manhole in vapor area • ICC lighting with vapor proof wiring in conduit
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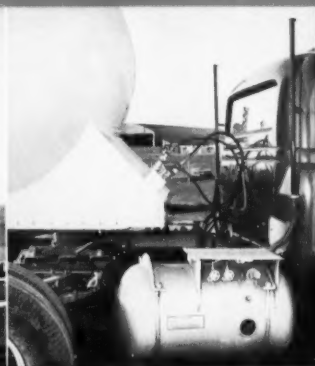
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Payliner vessels and sub-assemblies are X-Rayed before stress relieving. Entire vessel is tested hydrostatically.



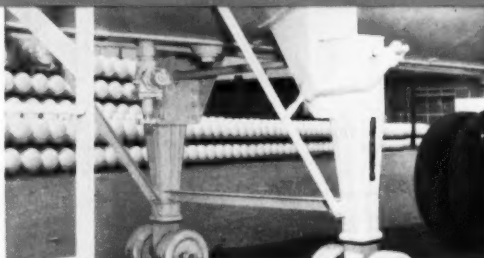
Beaird's new stress relieving furnace, one of the largest in the South, assures maximum vessel strength. Fitting welds are Magnafluxed after stress relieving.



Adjustable upper fifth wheel lets you balance load with any tractor. Air lines are piped through rub plate and electrical connections made in steel junction box.



Heads are die formed by Beaird for each individual diameter vessel. Fittings include 2" vapor opening, 3" liquid opening, and 3" Jet splash filling opening. All rear openings are fitted with angle valves and blowdown bleeder.



Roll down or stiff leg landing gear (optional). Note extra 2" vapor opening and 3" liquid opening. Brake lines are protected by steel conduit.



Bolted tire carrier is attached to T-1 weldment. All wiring is in steel conduit and clipped to T-1 steel pads. Electrical junction boxes are vapor proof.



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ASSOCIATIONS

Dad Legg honored at Tri-State convention

At the banquet following the September 8-9 convention of the Tri-State groups comprising the LPG associations of Utah, Nevada and Idaho, a patriarch of the industry received the highest honor possible to award him. The man is Dad Legg, known as the 87-year-old "youngster" and he was presented with a life membership in the Nevada LPGA and a gold medal in recognition of his long and devoted service to the association.

Mr. Legg responded in a typically appropriate talk that was enthusiastically received by the more than 200 men attending the meeting. He is the father of Brad and Tom Legg, of Glenbrook Gas Co., Grass Valley, Calif.

This was the first meeting of the three states in a joint effort to bring a good program and trade show to the members and it proved to be very successful. Salt Lake City was the convention city. Ten companies selling into the L. P. gas industry participated in the trade show.

Scheduled talks were, "The Future of Gas Appliance Merchandising," by Steve Upton, Whirlpool Corp.; "Credit Management," by Howard Dickinson, Pure Gas Service Co., and "The Value of Safety Knowledge," by W. M. Richard, Petrolane Gas Service.

J. Harold Reese, Tremonton, Box Elder County, was elected president of the association's Utah district. Chester Kaufman, Caldwell, was named head of the Idaho district, and W. Keith Horning Winemucca, was elected president of the Nevada district.

New Mexico group holds annual convention

The 1959 annual convention of the New Mexico LPGA was held in Albuquerque, August 13-15, with Blewett Cotton, outgoing president, presiding. Eddie Gilliland was chairman of the convention committee.

W. D. Badgett, of the New Mexico LP-Gas Commission, addressed the meeting on "Your Commission and You," while "The Future of

Gas Appliance Merchandising" was pictured by L. M. Snyder, Whirlpool Corp.

State Senator, F. Jack Danglade, Lovington, N. M., portrayed what "New Mexico Futures" will be, and Weldon F. Kite, General Gas Lite Co., Denver, talked on "Sales, Our Future."

Committee, chairmen appointed by LPGA

Twenty-four men have been selected from the active members of the Liquefied Petroleum Gas Association to head committees and sections for the ensuing year, according to an announcement from President Arthur E. Bone, of Malvern, Pa.

Six of this number are section chairmen, who will represent major industry segments of the association. Each chairman becomes a member of the LPGA board of di-

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rectors and serves for one year. They are:

Appliance manufacturers—L. A. Brand, Empire Stove Co. Equipment manufacturers — K. R. D. Wolfe, Fisher Governor Co. International — N. A. Evans, Pressed Steel Tank Co. Marketers—W. S. Brenckle, Natural LP-Gas Corp. Producers—K. C. Vaughn, Union Oil Co. of California. Tank fabricators—J. E. Ketner, Delta Tank Manufacturing Co.

Committee heads are:

Appliance specifications—W. J. Malchiodi, The Protane Corp. Con-

stitution and bylaws—L. W. Ferris, Household Gas Service Inc. Convention—M. A. Steinlicht, Home Gas & Machinery Co. Distinguished service award—C. O. Russell, Rapid Thermogas Co. Educational—C. E. Blome, William Wallace Co. Finance—A. B. Ritzenthaler, Tappan Stove Co. Gas fuel technology—C. A. Childers, Sungas Distributors. Insurance—F. A. Thoreson, Puget Sound Propane Co. Legislative—J. A. Storm, Sinclair Oil & Gas Co. L. P. gas specifications—Frank Perry, Cities Service Oil Co. Market research — C. J. Bender,

Trinity Steel Co. Inc. Membership —T. F. Thompson, Carlisle Propane Co. National affairs—C. J. McAllister, The Parlett Gas Co. Planning and organization—G. O. McGuire, Union L.P. Gas System Inc. Publicity and publications—H. N. Forman, National Propane Corp. Safety—E. A. Dovenberg, Home Gas Co. Technical and standards—Paul Tucker, Phillips Petroleum Co. and Transportation—Guy Miller, Texas Natural Gasoline Corp.

Mexican engineers form association

A group of L. P. gas men in Mexico have organized an association "to unite the responsible technicians and to attain a better understanding with the authorities," according to word received from the president, V. Morales Galindo.

Membership is limited to those engineers and technicians who are authorized by the government to design bulk plants and make commercial, industrial and domestic installations. Mexican regulations governing the handling of LPG were issued in 1950 and closely follow NFPA Pamphlet No. 58.

The name of the association whose headquarters are in Mexico City, is "Asociación de Técnicos en Gas L.P., A. C." and officers other than President Galindo are Salvador Magaña, C.E.; V. Rassvetaieff S.; and Luis Eguía.

Texas board approves trade show name change

The name of the Texas Butane Dealers Association's annual trade show will be known in the future as the Southwest L. P. Gas Market. The TBDA board of directors placed a unanimous stamp of approval on the recommendation suggested by the convention and trade show committee.

The proposal was made by the committee under the chairmanship of Lyle Blanton, because the annual event is a market place and its principal purpose is to bring buyer and seller together.

Ohio association elects T. C. Johnson president

T. C. Johnson, The Protane Corp., Grove City, Ohio, was elected president of the Ohio LPGA at its September 14-15 meeting in Columbus.



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HIGHEST QUALITY

The model FH696 is a genuine "gear-within-a-gear" Viking Pump with hardened steel gears, carbon graphite internal bearing, shielded external ball bearing for radial and thrust loads . . . and complete with mechanical seal.

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In Canada, It's "ROTO-KING" pumps
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Pardon us for mentioning it, but you are overlooking a bet when you fail to send us reports on your association meetings. The industry is waiting to hear what you do at your conventions. Members who attend want to read about it. Members who didn't attend want to know, too. And you ought to want non-members to know so as to interest them in your work. How can you do this if you don't send us the news?—Ed.

Other officers to serve with Mr. Johnson are John Clayton, Clayton Bros., Deshler, vice president; Floyd E. Grabel, Youngstown Propane Inc., Canfield, secretary; and Roscoe R. Roeth, Roeth Appliances Inc., Troy, treasurer.

The newly elected members of the board of directors are B. L. Jellison, chairman; Joseph Hogan, to serve with Richard Mulligan in the northwestern district; C. Denver Lamp, to serve with Richard Crooks in the northeastern district; Robert Ayer, to serve with Karl S. Brown in the southwestern district.

Paul M. Moyer will continue as director of the southeastern district, having been appointed a year ago to serve a two-year term.

Kenneth Muldoon named AGA ad manager

C. S. Stackpole, managing director of the American Gas Association, has announced the appointment of Kenneth F. Muldoon as advertising manager of the association. He previously served as manager of the association's "new freedom gas home bureau." He succeeds Charles R. Bowen, resigned.

Mr. Muldoon is being succeeded as promotion manager by Leonard M. Hammer, formerly with a Cleveland public relations firm.

Advertising and promotion programs for the gas industry are part of the AGA's \$6 million-a-year PAR Plan.

Formation of Australian LPG association reported

Official formation of the Australian Liquefied Petroleum Gas Association with headquarters in Sydney has been announced by Stuart M. Adams, association secretary.

Proposed association activities will center on standardization of equipment, appliances, and safe practices in domestic, commercial, and industrial applications.

President is W. A. Ashton, West-
Australian Farmers Co-Op Ltd. Vice
presidents are E. F. Magee,
Thermal Traders Party Ltd.; and

R. A. Down, Shell Co. of Australia Ltd.

The association can be addressed c/o Secretary Adams, Chamber of Manufacturers of New South Wales, Manufacturers' House, 12 O'Connell St., Sydney, N. S. W., Australia.

Missouri association has new executive secretary

Recently appointed as executive secretary of the Missouri LPGA is Tom S. Tomer, according to an announcement of the association's



COLUMBIAN'S "SAFE-T-TWIN"
does TWO jobs ...
Two Ways Better!

FETTER LP GAS SERVICE
FLAMMABLE COMPRESSED GAS
MADE IN U.S.A.
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SINCE 1893

Now you handle both butane and propane deliveries better and more easily from the Columbian "Safe-T-Twin" tank truck unit. Both in heavy, hectic city traffic and on "off-the-pavement" rural fuel deliveries, the specially designed, small-diameter (42" I. D.) twin

tanks with their low center of gravity give stable balance, easy maneuverability and ideal handling. (Wherever you go, Columbian serves you best!) Tanks shown above total 1500 gallons capacity, but are available in sizes to suit your need.

"SAFE-T-TWIN" SPECIFICATIONS: ASME 1956 Code working pressure of 250 lbs. Hemispherical heads and countersunk relief valves. Tanks manifolded on liquid and vapor and equipped with 2" Viking KK 200 Propane pump with mechanical seal. 1 1/4" Neptune 433 meter with printing counter. Motor driven dual reel. Liquid and vapor hoses serve either tank, are housed in rear cabinet. Complete ICC lighting and wiring.

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The "Safe-T-Twin" and LP "Advertiser" truck tank units are two examples of fast, efficient Columbian delivery equipment so important to profit in the LP Gas business. Columbian makes

custom units of any size—semi-trailer transports and delivery truck units—to meet the requirements of your particular business.



COLUMBIAN LP "ADVERTISER"

Clean, modern design advertises you as an up-to-date distributor. Compact rear double door cabinet houses all controls, fittings, meter, 150 ft. 3/4" hose on power reel. Fully equipped with ICC lights and wiring. Meets all state and federal requirements. Capacities from 1200 to 2500 gal. (Capacities above 2000 gal. should be on dual-axle trucks.)

Call in Columbian. Write for specification sheets and quotations, or for an engineering estimate on a custom-built unit. Tell us your requirements. Write or phone.



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HERE ARE A FEW SALES IDEAS:

Increase your L.P. gas sales by installing HASTINGS Gas Unit Heaters. HASTINGS heaters are ideal for chicken and turkey brooders, hog houses, work-shops, milk barns, and other farm and town uses.

Easy to install. Ignite perfectly on all types of L.P. gas. Dual-fuel optional . . . Sizes from 25,000 to 250,000 Btu/Hr.

Outstanding HASTINGS features are: Aluminized steel Heat Exchangers, Stainless Steel Ribbon Burners, 4-way air distribution louvers, 100% safety shut-off.



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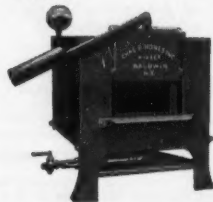
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BURNERS & FURNACES (Heat Treating, Melting, Soldering)

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Outstanding service since 1911! Each unit, with the famous "BUZZER" Venturi, delivers the hottest, quickest heat attainable without a blower. Full range control of heat and turn-down. Standards or specials available for manufactured, natural or liquefied gas applications.



PIPE BURNERS for even heat distribution in any capacity.



BENCH TYPE OVEN FURNACES for heat treating and pre-heating - temperatures to 2000° F.



NOZZLE BURNERS for all capacities up to 1 1/4 million BTU's.



RING BURNERS for all capacities up to 500,000 BTU's.



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Tom S. Tomer
Executive Secretary

board of directors. Mr. Tomer has been associated with the Texas Natural Gasoline Corp., of Tulsa, as sales representative, and since 1952 he has been identified with the LPG industry in management, engineering and sales efforts.

Mr. Tomer replaces D. M. "Buck" Orcutt, who resigned his position after six years as executive secretary.

**Kansas group changes
convention hotel**

The Kansas LP-Gas Association will not be able to hold its 1959 convention at the Broadview hotel, where all former conventions were held, and the Allis hotel in Wichita has been decided upon for the event. Dates will be announced later.

Eight district meetings of the association were held in September at the following locations: Stockton, Oakley, Garden City, Medicine Lodge, Topeka, Salina and Wichita. The topic of discussion in all instances was "Special Motor Fuel Taxation."

It is expected that in January there will be held the second meeting of the "KLPGA Traveling Management Conference." The subject for consideration will be accounting and records. The program is being developed by the association education and safety committee in cooperation with the State Board for Vocational Education.

**Oklahoma LPGA holds
second service school**

With an attendance of 77 gasmen from all parts of the state, Oklahoma LPGA proved the importance and popularity of its program for service schools for distributors and their employees when the second annual carburetion school convened at the Oklahoma State University at Stillwater, September 3-5.

A round dozen instructors—some from the university and the others



Instructors for the Oklahoma L. P. gas carburetion school are (from left to right), Bert S. Davenport, Oklahoma State University; Ralph G. Abbott, Ensign Carburetor Co., Dallas; Doyle L. Davidson, Agricultural Equipment Corp., La Junta, Colo.; William E. Luck, Oklahoma State University; Dick Mefford, Beam Products Manufacturing Co., Los Angeles; Claude A. DuBois, Century Gas Equipment Co., Dallas; and Len T. Estes, American Liquid Gas Co., Tulsa. Other instructors are Sal Delgado, Dale George Co., Oklahoma City; John F. Hancock, The Ta-Han Co., Tulsa; J. W. Hunter, Sales Equipment Co., Oklahoma City; and Johnny Smart, Tom Gorman Co., Tulsa.

from industry manufacturing companies—delivered lectures and provided instruction in the various procedures in converting, servicing and testing LPG-powered engines.

Subjects covered in classroom and laboratory included principles of L. P. gas carburetion, ignition systems and magnetos, cold vs. hot manifolds, disassembling and re-assembling, dynamometer performance tests and weed control and flame cultivation.

Classroom scene at the Oklahoma L. P. gas carburetion school held in September.



LPGA announces dates for 1959 convention

Plenty of time is being given the L. P. gas industry to prepare for next year's annual, national convention in Chicago. Announcement comes from LPGA headquarters that the dates for the 1959 gathering will be May 3-6, and convention Chairman Martin F. Steinlicht says it will be a five-star affair at which will be featured "inspiration, education, sellation, unification and communication."

Sixteen prominent men from every part of the United States have been appointed on the convention committee to ensure a complete and valuable program for the 4000 industry members expected to attend.

Harrell Jr. heads N. C. group for ensuing year

Meeting in Durham, N. C., in annual convention September 15-16, members of the North Carolina LPGA elected to the presidency for the ensuing year Charles Harrell Jr., Hertford. He follows W. E. Kirby, Asheboro, retiring president.

Other officers elected are James Swanner and Roger Hall, vice

presidents; Ray Boyette, secretary, and Charles Burnham, treasurer.

New directors are Dick Lee, Charles Gardner, H. V. Fenstermacher, William Probeck and Dal Wooten. Directors holding over for another year are Stuart Steele, Earle Parker, Marion DeVane and H. J. Dye.

CALENDAR

Coming events in the Industry

1958

October 27-28—Minnesota LPGA Fall Convention and Merchandising Conference—Nicollet Hotel, Minneapolis, Minn.

October 28—New England LPGA Convention—Somerset Hotel, Boston, Mass.

November 10-13—American Petroleum Institute Convention—Conrad Hilton Hotel, Chicago.

November 11-13—Pennsylvania LPGA Management Conference—Penn State University, University Park, Pa.

1959

January 11-12—Arkansas LPGA Mid-Winter Meeting—Hotel LaFayette, Little Rock, Ark.

April 20-23—Texas Butane Management Institute—Sponsored by the University of Texas—Fort Clark Guest Ranch, near Brackettville, Texas.

May 3-6—Liquefied Petroleum Gas Association 28th Annual National Convention and Trade Show—Conrad Hilton Hotel, Chicago.

October 12-14—Northeast Regional LPGA and Trade Show—Sheraton-Park Hotel, Washington, D. C.

All associations are invited to send in dates of their forthcoming meetings for this calendar.

During a bus strike in a city, a good-looking young girl was desperately trying to get a ride. A young man whose car was filled, seeing the trouble she was having inquired: "Why don't you try waving a white hankie?" The pretty young thing replied: "Damn it all, I'm just trying to get a ride, I don't want to surrender."

We all live in the self-constructed prison of our own experience.

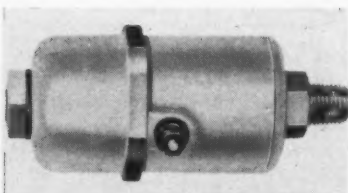
The gas utility and pipeline industry is expanding this year at the fastest pace in its history with construction expenditures of more than \$2 billion. This is 37 per cent higher than last year and more than triple the annual average for the previous 20 years. The industry is adding about a million customers a year and currently serves more than 30 million customers through utility gas lines.

WHAT'S

NEW

IN PRODUCTS AND TRADE LITERATURE

For further information on items reviewed in this section use the convenient post-paid Readers' Service Cards on pages 91, 92



Filter, solenoid valve combine

Beam Products has designed and is manufacturing a combination of filter and solenoid valve called the "filterlock" Model FL-417. It is 4 7/16 in. long and may be used with every L. P. gas carburetor installation as a space, time and money saver. It features a straight-through design requiring only two connections and shows a weight saving of 20 percent over separate filter and solenoid. It will operate in any position and either filter or solenoid may be disassembled separately.

Circle 1 on Readers' Service Card



Hex wrench

The Ridgid hex wrench has an adjustable 4-sided jaw that's easy to put on or take off. Angular jaw design is said to give more leverage plus time-saving, positive grip

on hex nuts, square nuts, valve packing nuts, unions and gas cocks, rough or finished. It is available in three sizes—No. 11 for 3/8 to 3/4 in., No. 17 for 5/8 to 1 1/4 in. and No. 25 for 1 to 2 in. nuts.

Circle 2 on Readers' Service Card



Multiple service cylinders

Four multiple service lift truck cylinders have been added to the standard line manufactured by Linde Co. These four cylinders, with capacities of 14, 20, 33 1/2 and 43 1/2 lb, are said to perform the same function as 21 existing types and sizes of lift truck cylinders on the market today. All four can be mounted in either a vertical or horizontal position, and the 14 and 20 lb sizes can be changed easily from liquid to vapor service. Changeover can be made without using additional fittings. The 33 1/2 and 43 1/2 lb cylinders have been designed for liquid service only.

Circle 3 on Readers' Service Card



Vapor carburetion regulator

A vapor phase two stage LPG carburetion regulator for small engines is now available from Ensign. Requires no liquid or liquid filter. Most notable in starting and idling, air-fuel ratio is almost a straight line curve regardless of changes in tank pressure. Spring loaded solenoid valve shuts off supply of fuel when engine is not running. Double throw vacuum switch permits cranking with carburetor throttle in any position. Requires only two main connecting lines to the carburetor.

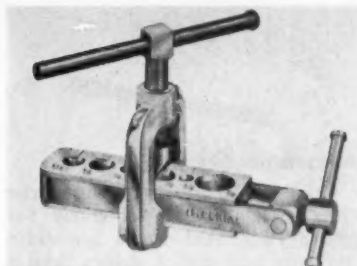
Circle 4 on Readers' Service Card

Instrument clock

The "gasclock," a completely self-contained air or gas powered instrument drive and timing unit, has just been introduced by American Meter. It can be used as either original or replacement equipment in all makes and types of recording instruments, and it

is said to deliver a constant power output of more than 20 times the torque supplied by conventional spring-wound clock mechanisms. It has a gas consumption of 5 cfh at its normal operating pressure of 5 psi.

Circle 5 on Readers' Service Card



45 degree flaring tool

A 45 degree flaring tool is introduced by Imperial Brass. It features self gaging, chevron gripping action and high strength flare radius. The chevron gripping action is said to end continuous indentations around the circumference of the tube. Stress points that can cause flare weakness are eliminated. Positive non-slip tubing grip is achieved with scoring reduced to a minimum. Flares on six different tube sizes—3/16, 1/4, 5/16, 3/8, 1/2 and 5/8 in. o.d. can be made with the new tool.

Circle 6 on Readers' Service Card



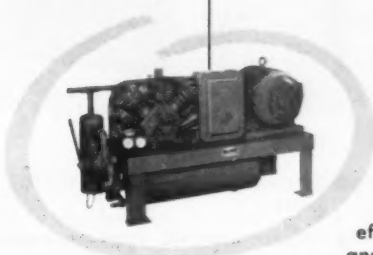
LPG cylinder valve

Bastian-Blessing Co. has developed its 7149R tamper-proof cylinder valve specifically for portable L. P. gas containers. The back check valve in the outlet of the 7149R is the important safety feature in that even if the cylinder valve is opened by an unauthorized person, there is no escape of gas. Only a standard POL nipple will open the back check when it is properly connected to the cylinder valve.

Circle 7 on Readers' Service Card

ARE YOU RECEIVING A **BONUS** TANK IN EVERY 20 TANK CARS?

YOU CAN and HERE'S HOW!



The Brunner LP Gas Transfer Unit not only transfers all liquid to your storage tank but also removes and liquefies the gas vapors in the tank car. That amounts to one extra tank car of gas from every 20 tanks.

It's also the economical and efficient way to load tank trailers and even discharge into storage tank of ultimate consumer.

GALLONS OF LIQUID REPRESENTED BY VAPOR CONTENTS OF 10,000-GALLON TANK CAR

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Tank Car Temp. — F.	Corresponding Pressure-psi	Gallons Recoverable	Tank Car Temp. — F.	Corresponding Pressure-psi	Gallons Recoverable
110	212	540	120	62	204
100	185	485	100	43	157
80	140	392	80	27.5	115
60	102	307	60	15.2	85
40	72	237	40	5.6	61
20	47	175	30	2.1	51



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Tells You How To Get Transfer Savings

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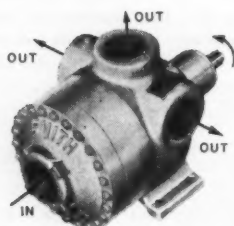
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20 lb.—40 lb.—60 lb.—100 lb. Cylinders

Complete Line of Accessories for Single or Double Hook-ups . . . Regulators—Valves—Racks—etc. Everything that is needed for complete Bottle Gas Installation.

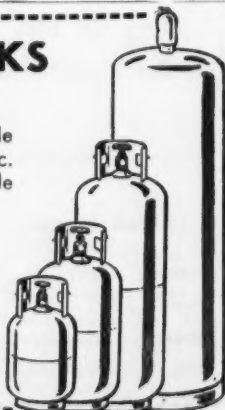
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General Processing Corporation

Main Office and Factory: Quincy, Michigan

West Coast Division:

10854 E. Central Ave., El Monte, California



Automatic gas dryer

Stiglitz Corp.'s fully automatic "Sun-aire," made exclusively for gas drying, features a porcelain top, mix and match colors, and a cabinet style to make it a perfect companion to General Electric and Frigidaire washers. The dryers have an "auto-iron" cycle. Drying time for average loads has been reduced to 35 minutes.

Circle 8 on Readers' Service Card

Transistorized mobile radio

Motorola's "motrac" radio has completely transistorized receiver and power supply and a partially transistorized transmitter. More than 20 transistors are utilized to provide the motrac radiophone with reliability standards and current drain characteristics never before realized in a two-way mobile radiophone, according to the company. The entire unit is 3 in. high, 11 in. wide and 17 in. long.

Circle 9 on Readers' Service Card



Gas range line

Roper's line of "value-high" gas ranges has completely restyled back panels. All the models are in the 36 in. size. The "rotis-o-grill" is featured on two of the new ranges. In charcoal and white porcelain enamel with chrome trim, the back panel incorporates an electric timer alarm-time clock,

FOR MORE INFORMATION

about New Products
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Each New Product or Trade Literature item reviewed in this issue is numbered. Circle the corresponding numbers on the Readers' Service Card; then PRINT your name, title, company and address plainly and drop the card in the mails (no postage is needed).

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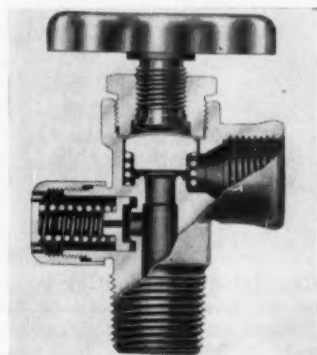
incandescent lamp, appliance outlet and control switches. The value-high models also offer a choice of other Roper features.

Circle 10 on Readers' Service Card

Ceramic-port range burner

A ceramic-port burner, a part of the meat oven, has been given complete approval by the AGA, according to Hardwick Stove Co., designers and developers. The burner operates on a radiant heat principle, making far greater cooking speeds possible. It is installed in a broiling unit measuring 15½ in. wide by 19 in. deep by 17½ in. high. Another feature of the meat oven is the thermostatically-controlled, live-flame rotisserie.

Circle 11 on Readers' Service Card



LPG cylinder valve

Superior Valve & Fittings announces a small compact cylinder valve which retains the reliability features of metallic diaphragms but reduces both size and cost by using a one-piece solid nylon lower stem. There are only two parts below the diaphragm—the spring and the solid lower stem. Filling rate is 9.5 gal. per minute of propane at 10 lb pressure drop. The safety device is approved by the Bureau of Explosives for containers up to and including 100 lb of L. P. gas. Safety device flows 390 cfm at 480 psi.

Circle 12 on Readers' Service Card

Book of collection letters

An LPG operator with a large number of overdue accounts receivable has a rather delicate problem to solve. The problem is to develop a method of collection which insures retention of the good will and future business of the customer. A series of collection letters, designed especially for this purpose, has been published by the Den-T-Book Co. It contains letters

WEATHERHEAD

Precision Engineering

for the HEART of your LP-Gas System



The Mark  of Quality



551 LP-Gem REGULATOR


Only Weatherhead offers this exclusive molded diaphragm design!



- 1 "O" ring type seal
- 2 No troublesome bolt holes
- 3 Positive diaphragm plate location
- 4 Reinforced relief valve seat area

diaphragm scientifically contoured for more positive working area

The new Weatherhead 551 LP-Gem Regulator is the culmination of years of successful design development and field-proven service. Corrosion resistant die-cast aluminum construction ensures trouble-free service under the most severe conditions. Ample capacity for simultaneous service to range, water heater and space heater. Send today for LP-Gem Brochure!



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THE WEATHERHEAD COMPANY
LP-Gas Equipment Division
CLEVELAND, OHIO

The Weatherhead Co. of Canada Ltd., St. Thomas, Ont., Canada
Export Division: Cleveland Ohio - Cable Address: WEATHCO

Your One Complete Source of LP-Gas Equipment

For further information use Readers' Service Cards on pages 91, 92

that are designed for every overdue account situation from the oversight to the long neglected. It sells for \$5.00.

Circle 13 on Readers' Service Card

Washer-dryer

Philco's "duomatic" combination washer-dryer is only 26 $\frac{3}{4}$ in. wide. It takes up no more floor space than many single automatic washers. It has a full eight pound capacity and can wash and dry an

entire wash load within an hour. Simplified controls set water temperature, wash time and dry time and then automatically both washing and drying are done.

Circle 14 on Readers' Service Card

Gas area heater

Dearborn Stove Co. has introduced a gas area heater which offers a wall thermostat as standard equipment. A new type counter flow blower system, which is

stated to be unusually quiet and capable of greater air by volume delivery, is also included.

Circle 15 on Readers' Service Card



Grave heater

The Speedy Thaw Grave Heater is effective for thawing frozen ground during the winter months. It has a 3 in. nozzle and develops 500,000 Btu of heat, using L. P. gas. The burner can be set up to 8 lb of gas per hr, but can be regulated to $\frac{1}{2}$ to 10 lb per hr. When set at 3 lb, it will thaw and dry the ground 12 in. deep in about 2 $\frac{1}{2}$ to 3 hr. This heater eliminates the use of air hammers.

Circle 16 on Readers' Service Card

Transistor-powered mobile unit

Two-way radio equipment introduced by General Electric contains transistor power for both transmitter and receiver. Units are available for mounting in the front of a car or truck or for placement in a vehicle's trunk. They may be used in low band frequencies (25-54 mc), high band (144-174 mc) and UHF (450-470 mc).

Circle 17 on Readers' Service Card

Night writer pen

Filling out invoices, receipts, or reports on night calls is easy with the "night writer" ball point pen. The pen features a built-in light. And, it can be used as a pocket flashlight as well. Silver Bells Ltd. offers the pen-flashlight combination which comes complete with a heavy leather case.

Circle 18 on Readers' Service Card

Specifically Designed

FOR FOOLPROOF

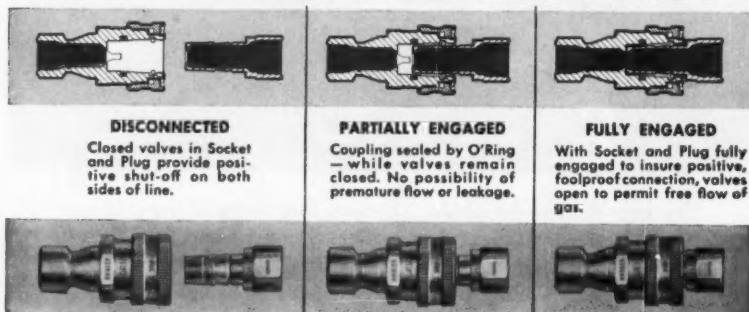
L. P. GAS

CONNECTIONS

HANSEN

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QUICK-CONNECTIVE COUPLINGS



DISCONNECTED

Closed valves in Socket and Plug provide positive shut-off on both sides of line.

PARTIALLY ENGAGED

Coupling sealed by O'Ring — while valves remain closed. No possibility of premature flow or leakage.

FULLY ENGAGED

With Socket and Plug fully engaged to insure positive, foolproof connection, valves open to permit free flow of gas.

Specifically designed for L. P. gas line connections, Hansen GRI Couplings completely eliminate the hazard and annoyance of leakage or spillage of gas.

To connect (no tools required), you merely push the Plug into the Socket — all the way. To disconnect, just turn sleeve — Coupling instantly and automatically shuts off both ends of line.

Sockets available with $\frac{1}{4}$ " female pipe threads. Plugs available with $\frac{3}{8}$ " female pipe threads.

Write for descriptive literature



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SINCE 1915



QUICK-CONNECTIVE FLUID LINE COUPLINGS

THE HANSEN


MANUFACTURING COMPANY

4031 WEST 150th STREET • CLEVELAND 35, OHIO

TRADE LITERATURE

Pump and equipment catalog

Smith Precision announces a catalog on LPG pumps and auxiliary equipment. Fully described are standard model pumps which have been improved since the last complete catalog was printed; also, many new models including small inexpensive pumps for farm use, special quiet pumps, high-



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**LP-GAS
VAPORIZERS**

Specified by
Consulting Engineers
throughout industry.
Units are applicable
to ammonia
vaporization as well.

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pressure-tight
connections**

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TiteSeal**

**SEALING
COMPOUNDS**

Heat and vibration-
proof, non-solvent,
will not shrink, crack
or crumble. Makes all
assemblies leak-proof
and pressure-tight.
Prevents rust, cor-
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**7 BASIC
BLENDS**



LIQUID WRENCH

The super-penetrating
rust solvent

LOOSENS
rusted bolts, nuts,
screws, 'frozen' parts

Liquid Wrench works
fast...yet is absolutely
safe for all metals and
alloys.

**At Industrial, Automotive,
Hardware, Plumbing Jobbers**

RADIATOR SPECIALTY CO.
Charlotte, North Carolina

SEAL

speed truck pumps for use with automatic transmission, high-capacity heavy-duty equipment for large bulk plant and loading rack service.

Circle 19 on Readers' Service Card

Consumer education booklet

"How to Get the Best from Your Heating System," is a 12-page, four-color booklet available from Minneapolis - Honeywell. Written in language the homeowner can understand, the booklet explains and diagrams the various types of heating systems, how they function and the equipment used for each. Also are included tips to the homeowner on how to make sure his heating system is providing the maximum comfort.

Circle 20 on Readers' Service Card

Air conditioning information

A catalog with complete specifications and product dimensional diagrams for the full American-Standard line of warm air furnaces, winter air conditioners, central residential and light commercial summer air conditioners, and combination year-round air conditioners has just been issued by the company. Published in 32 page book form, it is punched for insertion in a standard 3-ring binder.

Circle 21 on Readers' Service Card

Service regulator bulletin

A revised 20-page bulletin covering the entire line of Rockwell service regulators is available. A complete description of the "143," introduced last year, has been added to the bulletin. Other features include: cross-sectional views of all the regulators and outlet pressure adjustment range, capacity and dimension tables, and photo-illustrations.

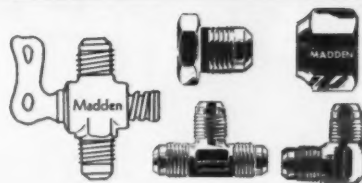
Circle 22 on Readers' Service Card

New catalog sections

Bastian-Blessing Co. announces two new catalog sections to be placed in its existing L-500 catalog. One section covers the Rego hi-lo two-stage regulator outfits and the other covers the 2547V series plumber's pot valve. The V denotes the addition of a vent valve and dip tube to the basic plumber's pot valve.

Circle 23 on Readers' Service Card

**MADDEN MEANS
DEPENDABILITY**



**TOP QUALITY
FITTINGS AND
ACCESSORIES**



**including
WIMCO TOOLS
FLARE TOOLS
TUBE CUTTERS
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**LARGE
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**LOW
PRICES**



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COMPANY
AURORA 3, ILLINOIS, U.S.A.
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**PORTRAIT of a
PROFIT MAKER**



WALDORF standard

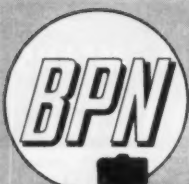
L-P Gas Hot Water Heater
A.G.A. APPROVED

Available in round 20, 30, 40,
50, and 75 Gallon Sizes. Also
Table Top models.

For the Waldorf Profit Maker
Story, write to, Dept. 11



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Butane, Propane

POWER

**CARBURETION • INSTALLATION
• SERVICING**

POWER SECTION

A. J. R. aims to please

By MARTIN A. BROWER • Managing Editor



J. D. Arden, head of the A. J. R. Motor Supply Co. LPG carburetion department, stands by one of 29 city delivery trucks converted through him by Von's Grocery Co., Los Angeles.

WHAT does a general automotive parts dealer do when longtime customers begin asking questions about propane as a fuel for their gasoline fleets? In the case of A. J. R. Motor Supply Co. Inc., Los Angeles, it adds a man who knows LPG carburetion to its staff.

And what happens when that man begins answering customer questions about propane power? In the case of carburetion expert J. D. Arden, the customers begin converting—but fast.

And what happens when a gasoline user converts city delivery trucks, cement ready-mix trucks, or fork lift trucks to propane? In the case of many of the top fleets in Los Angeles, they make the decision to go all the way.

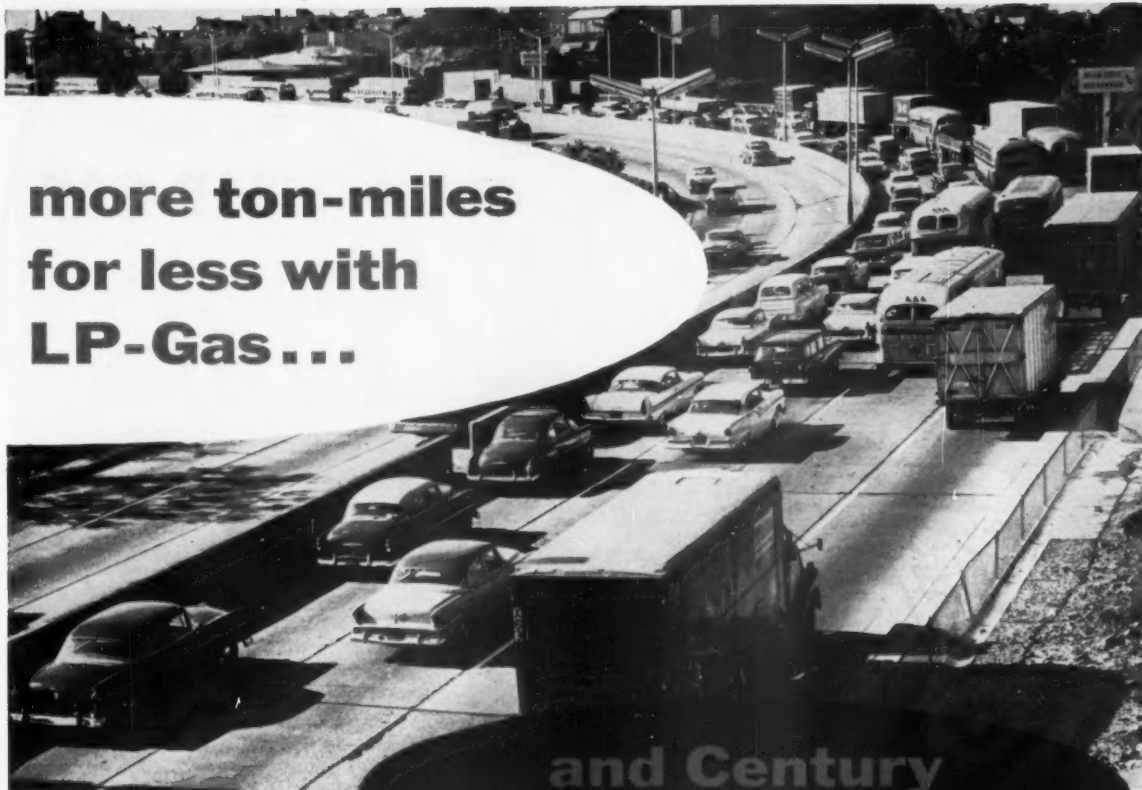
And that is the story of A. J. R. Motor Supply Co. and its propane power department head J. D. Arden.

That is also the story of huge dollar savings for fleets like Von's Grocery Co., Baker Rendering, Soule Steel, Kennedy Ready-Mix, Culver Ready-Mix, and Continental Amsco.

A. J. R. Motor Supply is an old time automotive parts dealer serving the east side of Los Angeles County. For all of the years of its existence, partners Arthur Papazian, Robert Wasserman, and Joseph Zorigian handled a full line of gasoline and diesel automobile and truck parts only. The business has been built on immediate service for any part. And A. J. R. has always tried to please, which accounts for its high volume through longtime customers.

Thus, when customers began ask-

**more ton-miles
for less with
LP-Gas...**



**and Century
3C Carburetion**

LP-Gas and Century Carburetion offer many money-saving advantages to truck fleet operators—lower fuel costs, lower maintenance costs, less downtime, and more ton-miles of trouble-free operation—and Century combines this economy with top performance.

Century 3C Carburetors are individually designed for each make of engine, and they are factory-calibrated and pre-set to its performance curve. You get easy starting, perfect idling, constant power and speed in all operating conditions.

Century 3C Carburetion, a product of Borg-Warner, employs a metering valve system to provide perfect fuel-air mixtures at all throttle settings. Performance is not dependent upon delicately adjusted, spring operated pressure regulators. That's why only a tune-up adjustment is required when installing a Century—you just set it, seal it and forget it.

Get the facts! Write for booklet titled, "How Truckers Save on Fuel, Lubrication and Maintenance."



CENTURY
LP-GAS CARBURETION



There is a 3C Century Carburetor for every make and model of truck engine.

Export Sales: SinPar Automotive Div.,
Singer Products Co., 15 Moore St., New York 4, N. Y.

Century Gas Equipment
Marvel-Schebler Products Division, Borg-Warner Corp.
625 Southside Drive, Decatur, Illinois



"MY ENSIGN DEALER FRANCHISE

"The Ensign line is the backbone of my business. Once a job is installed according to Ensign standards, you can forget it. This valuable 'know-how' is part of the training all qualified Ensign dealers receive."

Ensign is one of the easiest lines of LP-Gas carburetion to sell. Wherever LP-Gas is on the move, Ensign is there too, in fact, far ahead with new ideas, new products and new assemblies for practically every make and model of engine. You hear time and time again from all sources that there is not another product in the carburetion industry that compares with Ensign quality, operation and workmanship.

You will find that the Ensign Carburetor Company has made great strides with a new factory to meet the demands for its products. It has also invested large sums of money in new educational materials — new sales literature, new service information, and new sales aids.

Ensign factory trained engineers and distributors are equipped with sales tools to help you along. Team up with Ensign today. Write the home office at Fullerton for the latest dealer information. Outline your effective working area when making your inquiry.

ENSIGN

CARBURETOR COMPANY

1551 E. Orangethorpe, Fullerton, California
Branch Factory: 2330 W. 58th Street, Chicago, Illinois



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Sell the
Vast **LP-GAS**

**TRACTOR and AUTOMOTIVE
MARKET with . . .**

ENSIGN

the **CARBURETION**
ENGINE BUILDERS CHOOSE

TAXIS

LIFT TRUCKS

TRUCKS

BUSES

TRACTORS

POWER UNITS

- (1) **BETTER CARBURETION--BETTER PROFITS**
- (2) **EASY TO SELL, INSTALL AND OPERATE**
(New Sales Aids)
- (3) **ENSIGN IS OEM* ON AMERICA'S LEADING TRACTORS.**

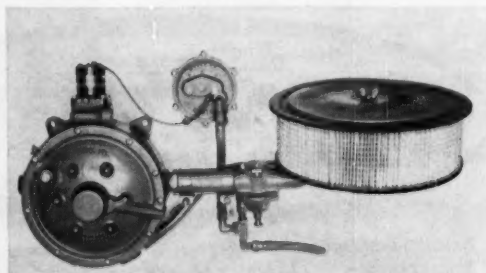
Your Assurance of Best Equipment

- (4) **GET IN LINE WITH ENSIGN TODAY.**
An Installation for Every Engine

*Ensign is the principal OEM (Original Equipment Manufacturer,) supplier of LP-Gas carburetion for the tractor industry. Become part of the Ensign selling organization today.

**NOW, NEW ENSIGN EQUIPMENT
FOR TRUCKS, PICKUPS, TAXIS, ETC.**

A new under-hood low profile Ensign air cleaner carburetor Model 758 is used with Ensign model HL, LP-Gas Vaporizer-Regulator, Ensign vacuum switch and solenoid for excellent starting, power and economy. Request complete data today.





Ready to roll is one of nine Internationals converted by Baker Rendering Co. Eight Chevrolets will be next.

ing about propane a few years back, A. J. R. added Mr. Arden to its staff to supply the answers. Mr. Arden came with 20 years of experience in the LPG field: as operations manager of Metrogas, Los Angeles; carburetion representative for American Liquid Gas; and automotive experience with Ethyl Corp.

In the less than two years since A. J. R. began answering customer questions, its LPG carburetion parts volume has become an important part of its business. The addition of LPG parts makes A. J. R. one of the few general automotive supply houses in the nation active in the LPG power field.

Now, instead of merely answer-

ing inquiries, A. J. R. plans on actively seeking out prospects. However, inquiries among present customers keeps the carburetion department hopping.

Ninety day guarantee

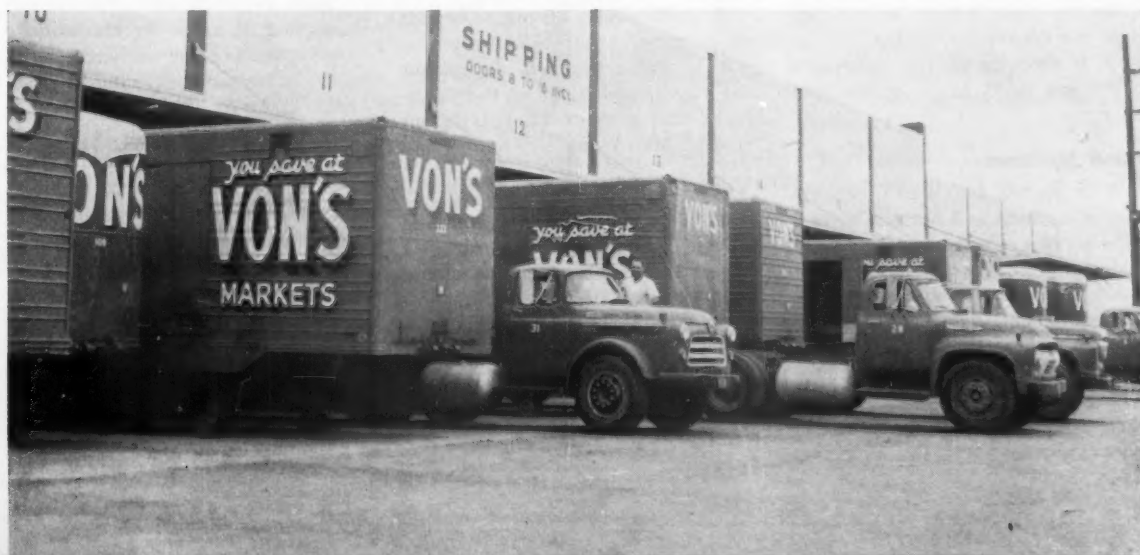
A. J. R. has an important advantage in trying to sell an LPG conversion to a customer. It already has the trust and respect of that customer from years of dealing in automotive parts. And the customer knows contact will always be maintained as long as A. J. R. continues to supply all parts. In addition, all conversions come with a 90 day guarantee. During those 90 days, LPG carburetion expert Arden is on call for anything. It

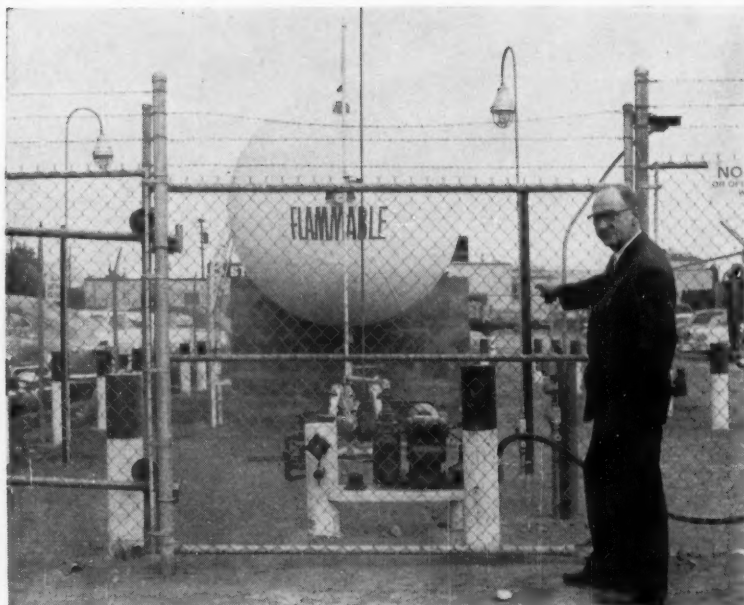
has been Mr. Arden's experience that after 90 days the company maintenance mechanics have everything well in hand and need no further assistance anyhow.

Mr. Arden prefers to have conversions made by the customer's own maintenance mechanics right in the customer's shop. He sells the company everything required, including the tank, and gives all of the help the mechanics can use. Once the customer's mechanics have converted the units themselves, they are familiar with LPG carburetion and can do their own maintenance and trouble shooting, he stated.

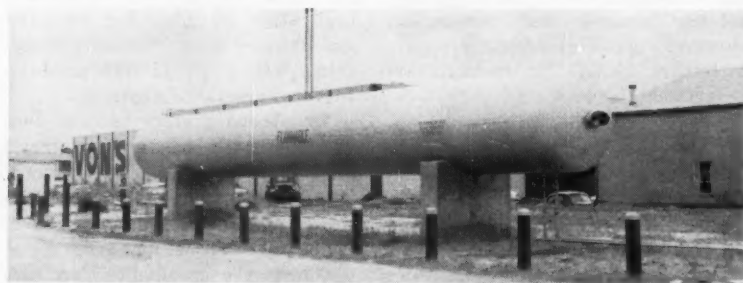
"I educate the mechanics from the start and show them how

Shown is part of the Von's Grocery Co.'s converted fleet.





Mr. Arden points at the 10,000 gal. storage installation he engineered and installed for Baker Rendering Co. The pump can empty the tank at 90 gpm.



A consumer of 20,000 gal. of LPG per month, Von's Grocery Co. has a 12,000 gal. tank. A shutoff near the tank shuts down everything including the truck filling equipment on the other side of the maintenance shops in the background.

simple LPG carburetion actually is," Mr. Arden explained. In this way, he said, he wins them over to LPG and away from their natural reluctance to try something new.

In the case where Mr. Arden does the conversion himself in the A. J. R. shop, he has the customer's chief mechanic in to watch and help.

Good business

A. J. R. has found LPG conversion equipment and parts sales and LPG service sales to be a profitable undertaking. It sells no propane itself, so makes its entire profit on the equipment. The company has already made a name for itself as a leading parts and service house for LPG powered equipment in

eastern Los Angeles and Orange counties. As a service to carburetion customers, Mr. Arden also engineers and installs complete bulk storage and fueling installations.

A. J. R. stocks all major brands of propane carburetion equipment but is an authorized distributor for Algas, and Algas is the equipment that goes on all conversions sold by Mr. Arden.

Von's Grocery Co.

With 23 markets throughout Los Angeles County, Von's Grocery Co.'s new warehouse is swarming with activity. Its fleet of fork lifts is in constant action loading groceries onto Von's city delivery truck fleet which keeps the markets supplied. But active fork lifts

created a very real problem. Von's new, clean, modern, streamlined warehouse once looked like London when the fog rolls in. The cause: exhaust fumes from gasoline-powered fork lifts.

Even worse was the fume situation in Von's cold storage room. With no outside air, the room was unbearable after a fork lift operated there for a short time.

A call went in to Von's automotive parts supplier, A. J. R. Motor Supply. "We have heard that propane power cuts down fumes and we were wondering . . ." J. D. Arden to the rescue.

Von's automotive maintenance mechanics converted one fork lift in its own shop under Mr. Arden's guidance. The cold storage room problem cleared up completely. The rest of the Towmotors, nine in all, were converted to LPG. The warehouse today, with all of the units in operation, is as clear as a country morning.

In addition to clearing the exhaust fume problem, fork lift fuel costs less and down time was far reduced.

Next, Mr. Arden began explaining to Von's the virtues of converting its city delivery truck fleet to LPG. Already sold on the fuel through the fork lift conversion, distribution manager Don F. Bushmeyer and traffic manager Richard Cressey gave the go ahead.

Twenty-nine delivery trucks—Internationals, Fords, Reos and others—have been converted to date. All new trucks bought by Von's will now be factory-equipped for LPG. Everyone from Mr. Bushmeyer to the maintenance mechanics are now solid boosters for propane power.

Most important saving so far has been in fuel, since the trucks have not yet been converted long enough to have any real servicing or overhaul history. Von's was using a premium Ethyl gasoline in order to get top performance from its fleet. No other gasoline would do. Cost was 28 cents per gal. With propane, performance is reported as good if not better than with the premium gasoline at a price of 16 cents per gal.

But what about miles per gallon with propane? Before converting, Von's officials were bothered by



Ford Tractors in two power sizes are available with Zenith LP-gas carburetor systems. LP-gas conversion units are offered for 600, 700, 800 or 900 series Ford Tractors.

FORD TRACTORS PROVE THESE ADVANTAGES OF ZENITH LP-GAS SYSTEMS

Zenith* carburetion systems for LP-gas give tractor dealers new and appealing sales advantages. Think how many of your customers will be interested when you demonstrate features like these—

1. Substantial savings in fuel costs
2. Quieter, smoother operation
3. Fewer overhauls
4. Fewer tuneups
5. Cleaner spark plugs
6. Longer oil life
7. Minimum dilution of crankcase oil
8. Underwriters' Laboratories approved
9. Clean, odorless exhaust

Zenith is not only the oldest but also one of the most experienced manufacturers of carburetors for farm tractors. This experience is applied to its LP-gas systems to assure your customers of *all* the advantages of LP-gas fuel *at low cost*.

Also it is easy as well as profitable to enjoy LP-gas advantages with Zenith LP-gas *conversion* units—available for conversion of all makes of gasoline tractors.

For complete details on how you can share in this rapidly expanding market, write to: LP-Gas Sales Department, Zenith Carburetor Division, 696 Hart Avenue, Detroit 14, Michigan.

*REG. U.S. PAT. OFF.

Zenith Carburetor Division





A. J. R. Motor Supply Co. partner Art Papazian, left, and A. J. R. propane power expert Arden stand in front of the supply house and headquarters in East Los Angeles.



Mr. Arden had to personally make many of the fittings for converting this mammoth 477 cu in. Ford engine.

rumors that propane would give only half the miles of gasoline. Von's keeps a daily record of all truck mileage and all fuel consumption. Units that had a standard gasoline engine converted to LPG are getting only .2 of a mile less per gallon than with gasoline. And factory-equipped trucks are getting better mileage than with gasoline.

Von's mechanics reported that mileage between tune-ups is greatly increased on LPG and time consuming vapor locks were no problem this summer as they had been in past years on gasoline.

Von's trucks and fork lifts con-

sume 20,000 gal. of propane per month, supplied by Suburban Gas Service. When he converts a fleet, Mr. Arden gives the customer a list of names, addresses, and telephone numbers of all local LPG suppliers and lets the customer's purchasing department let out the account.

Fuel storage is in Von's 12,000 gal. tank, engineered and built by American Liquid Gas Co.

Baker Rendering Co.

An old and valued customer of A. J. R., Baker Rendering Co., operates more than 20 trucks throughout Southern California,

picking up loads of waste meats and bones for rendering into fertilizer and tallow. With highly skilled management heading the firm, Baker officials had heard enough about propane from other sources that it wanted to try a conversion. To try LPG is to buy LPG and nine Internationals are presently converted. Superintendent of maintenance Raymond Smith reported that he is all ready to convert eight Chevrolets to propane. He also stated that all future trucks bought will be equipped for LPG.

The original conversions have now made more than 100,000 miles each and there is no need yet for overhaul. One engine was pulled at 100,000 miles for a blown head gasket and everything was found to be in top shape. "There wasn't even any carbon," Mr. Smith exclaimed.

Mr. Arden engineered and designed the Baker fuel storage and filling system himself. Baker has a 10,000 gal. Beaird tank which is capable of loading or unloading itself. It can pump off at 90 gpm through Okadee valves and a Corken pump. Metering is with a Neptune meter. LPG consumption at Baker is 8800 gal. per month.

And others

Six fork lifts and three yard cranes operate on LPG at Soule Steel Co., five ready-mix trucks at Kennedy Ready-Mix, 20 ready-mix trucks at Culver Ready-Mix, and 10 fork lifts at Continental Amsco.

The writer stopped by with Mr. Arden at Kern Foods, major canner of fruits and vegetables, which has one fork lift on propane in its cannery. The purpose of the stop was merely to say hello and look at the neat green Petrolane Gas Service tank installation. "Hello," said the purchasing agent enthusiastically. "I was about to call you. As soon as the big tomato canning rush is over in another few weeks, we want to convert all of our fork lifts to propane."

Mr. Arden smiled happily. "You see," he said. "And they have only been trying LPG for a short while. For any carburetion use, but especially for fork lifts and city delivery trucks, LPG takes a back seat to no other fuel." ■

Now!

the revolutionary new

BEAM

Filterlock

(PAT. PEND.)

MODEL FL-417

*A Compact,
Efficient
Combination of*

**LP-GAS FILTER
AND
SOLENOID VALVE**

**TIME SAVER • SPACE SAVER
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SHOWN
ACTUAL
SIZE

Weight 22 oz.
1/4" Female Pipe Inlet
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Port Size 1/8" Diameter
Hycar Vulcanized Seat

Now, for the first time, the normally bulky filter and solenoid are contained in a single unit only 1 3/4" in diameter.

CHECK THESE ADVANTAGES:

- ✓ Filter or Solenoid may be Disassembled Separately
- ✓ Sintered Bronze Filtering Element Traps Particles as small as .001
- ✓ Available 6, 12 or 24 Volt D.C.
- ✓ Operates on 9 Watts

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LIST PRICE \$19.00

- Use with every LP-Gas Carburetor Installation
- Operates in any position
- 20% Weight Saving over Separate Filter and Solenoid
- Straight Through Design
- Requires Only Two Connections
- Eliminates Need of Extra Fittings and Connectors

CHapman 5-5791

for long wear
low vibration
fast pick-up
**JOHNSON
VANASIL
PISTONS**



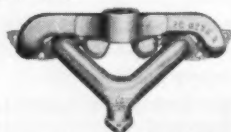
**JOHN DEERE
Vanasil Pistons**
—jump power
output as much
as 25%

**MINNEAPOLIS-
MOLINE**
"U" Vanasil
Pistons—light-
weight, yet tough
as cast iron



LP conversions of John Deere and MM-"U" tractors result in more power and performance with Johnson Vanasil Pistons. Newly patented Vanasil amazingly combines the hardness of cast iron with the lightness of aluminum. Precision Johnson machining and engine "know-how" keeps pistons snug without sticking. Tractor vibration is kept low... stalling eliminated... pick-up increased.

For John Deere A, G, "50", "60" and "70"... also Minneapolis-Moline "U". Johnson Aluminum Pistons are available for John Deere A, B, D, G and H models



JOHNSON COLD MANIFOLDS FOR LP GAS keep constant flow at correct temperatures... are available for:

John Deere A, B, D, G
International H, M, W-9
Allis-Chalmers W, WC, WD, WF
Ford 600, 700, 800, 900 Series
—also International and Chevrolet trucks.

WRITE for literature and prices.

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MACHINE SHOP**

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Pontiac, Illinois

POWER NEWS

Ensign establishing new carburetion dealerships

Advantages of LPG over diesel fuel and gasoline, improved LPG supply, and new carburetion techniques will all team up to push LPG carburetion sales to all time high sales during the next ten years, according to A. J. St. George, general sales manager for Ensign Carburetor Co.

Ensign is establishing key dealerships in many new areas and established Ensign dealers are appointing new dealers within established areas. The firm's dealer selling program is explained in its new booklet entitled "This Business of Carburetion," which outlines dealer franchise and sales policies. Copies can be had by writing to Mr. St. George at Ensign, 1551 E. Orange-thorpe, Fullerton, Calif.

Acme Carburetion also distributes information

We get a big lift out of the bulletins that C. F. Butterworth, Acme Carburetion, Mankato, Minn., sends out to his dealers. Here are some extracts:

"230,000 miles without a valve grind job. Chap walked in this morning wearing a big hat and cowboy boots. Two years ago he stopped at our Ortonville plant to refuel his four year old International Truck with Red Diamond engine which he had just bought. He was hauling lumber from Two Dot, Mont., to St. Paul. Carried Century carburetion and was getting about 4 miles per gal. loaded. In 10 minutes we removed the balance line and on next trip thru he reported he was getting 6 mpg loaded and 8 empty, and taking hills a gear higher.

"Marvin Bell now lives in Norfolk, Neb., and stopped today to have a new throttle shaft installed in the carburetor. Says it is the first nickel he has spent on the carburetion since we saw him over two years ago. He says he drove it 160,000 miles and removed the head to install new rings for he had no idea how many miles it had gone before he got it. Rings were clean and free but had stretched.

"Valves were clean but he installed the new type head with larger valves to give even more power. Since then has put over



**LPG
FUEL
INDICATOR
KIT**

**Red Warning Light
Flashes when
LPG is low!**



END DELAYS AND EXPENSE CAUSED BY "OUT OF FUEL"

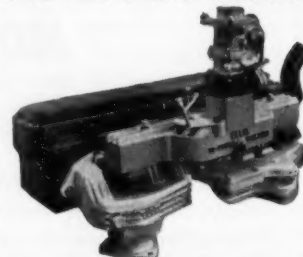
Positive, "can't-fail" signal flashes low fuel warning in plenty of time to reach refueling point. Simple, sure, accurate. In full view of driver at all times. Fits all industrial trucks. Easily installed in minutes. Quickly pays for itself. Order today, specify 6 or 12 volt system. **\$11.90**

**LPG TANK
MOUNTING BRACKETS**
NEW, IMPROVED DESIGN

For Materials Handling
Equipment. Safe, Sure! **\$24**
Change Tank in 1 minute.
Write for new Quantity Price List

BRAKE MANUFACTURERS, INC.
1711 Race Cincinnati 10, Ohio

**DON'T RAISE THAT
COMPRESSION! . . . install an
ELLIS (extra cold) MANIFOLD**



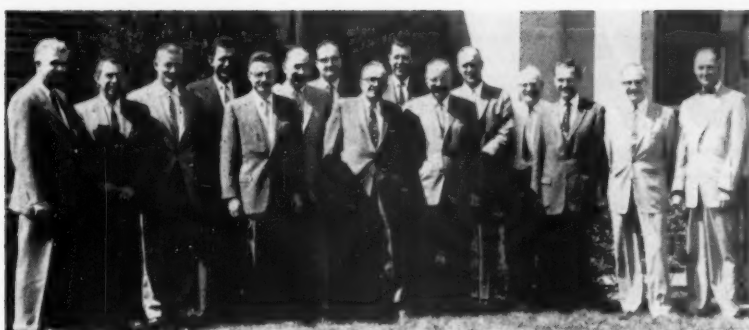
Leading LPG engineers are sold on the merits of Ellis Bu-Power (Extra Cold) Manifolds. These manifolds give high-compression performance with low-compression reliability. Head gasket, ring and bearing troubles are minimized. Get the most out of your LP truck with an Ellis Dualexhaust Manifold. This latest addition to the Ellis line has proven far superior to the so-called improved 3 1/2 x 4" exhaust systems in test after test under actual road conditions.

By lowering combustion chamber temperatures and reducing back pressure, Ellis Dualexhaust increases horsepower. Used with the Bu-Power Manifold, it gives your truck power that exceeds gasoline horsepower. This is possible only with an Ellis Manifold.

ELLIS MANIFOLD CO.
3134 East Washington Blvd.
Los Angeles 23, California

Phone
LUdlow
8-6338

In most cities dial information for the number of Ellis Manifold Distributor.



Pictured above are representatives from the entire nation who attended the first general sales meeting of the Century-Marvel-Schebler carburetor organization since the recent merger of Century Gas Equipment Co. with the Marvel-Schebler Products division of Borg-Warner Corp. Pictured left to right are: Jack Crossman, LPG sales manager; Chuck Garrison, Pacific Northwest; Herb Frambes, California, Nevada, Arizona, Utah; Claud DuBois, Texas, Oklahoma, Arkansas, Louisiana; Larry Bernauer, O.E.M. Accounts in Iowa area; Dean Peterson, Northern Midwestern States; F. E. "Bud" Pilling, general sales manager; Jack Krebs, Eastern Seaboard; Don Arndt, vice president-director of engineering; Bill Cook, O.E.M. Michigan area; Herb Hartz, O.E.M. Wisconsin area; Fred Riddell, asst. to chief engineer—carburetors; Jim Fairbanks, O.E.M.—general; Einar Dahl, chief engineer—metered fuel section; Bob Massey, service-sales manager—carburetors. Other representatives not present at the meeting are Dick Katchmar, Dave Barnes and Joe Shoesmith.

70,000 miles on the truck and the engine purrs like a kitten.

"We got another good commendation letter from Marvin. How many of you are getting good letters from your own customers? Good pictures of your users and letters with them are the most potent sales tools you can have. How many of you have such sales tools as reprints of BUTANE PROPANE News' story on Chicago Transit Authority buses, IHC Engineering Bulletin, Mpls-Moline comparison of power on the four fuels, Hall Scott spec. sheets showing 25 per cent more power on L. P.?"

"In traveling over the territory, have noted that those doing the best selling job have a good sales kit. They collected good material and arranged it in such order that they can use it effectively. When

they see a prospect, they know what points they are going to make and have the material in order to clinch those points.

"We can learn much by observing so called salespeople who call on us. Most of them are just peddlers. But there is the chap who comes along who is friendly and easy to talk with. He shows an intelligent understanding of our problems and can talk our language. He doesn't talk his product but what it will do for us. While he doesn't make wild statements, he does show a real knowledge of his product and what it will do for us. He shows enthusiasm and when he does make a statement that we might question, he offers proof such as letters or records from some company or source we respect. And he isn't afraid to ask for the order.



Parkhill Nozzles lock on and open fuel valves in 3 seconds... On release, automatically vent away from hands.

Two sizes: Domestic 7", Truck 11" overall.



Safety Hose Nozzles

1. Time Tested
2. Quick Filling
3. Simple and Safe
4. No Cold Burns

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PARKHILL-WADE

2264 Huntington Drive, San Marino, Calif.

WESTERN TANK QUALITY

Has been proven by
the many WESTERN
TANK firsts which
are now standard
in the industry.

ANOTHER
WESTERN
TANK



FIRST manufacturer to supply tanks to match tractor colors.

FIRST to manufacture replacement tanks to tractor manufacturers' specifications.

FIRST to manufacture the AD-JUSTO, the tank that fits every pickup made.



Fully-Illustrated, Installation Catalog... and weekly stock lists are available from your Western Distributor — Write for his name & address.



CLASSIFIED Advertising

All Classified Advertising payable with order. Copy must reach publisher's office prior to the 1st of the month preceding publication. Address: Classified Advertising Materials, BUTANE-PROPANE News, 198 S. Alvarado Street, Los Angeles 57, Calif.

DISPLAY CLASSIFIED

\$12.00 a column inch per issue. Choice of 18, 14, 12, 10 pt. display type for headings. Set with 1 pt. border. Maximum ad size 3". No cuts permitted. Publisher will set ad for maximum effect in space purchased.

UNDISPLAYED CLASSIFIED 15¢ a word. Set in 6 pt. type without border. \$3.00 minimum charge per insertion. If Blind Box number care of B-P News is used, count as five words.

POSITION WANTED. Undisplayed rate is one half of above rate, payable in advance.

DISCOUNT OF 10% if full payment is made in advance for four consecutive insertions of undisplaced ads.

SITUATIONS WANTED

POSITION WANTED: FULLY QUALIFIED designing and project engineer on transporting, storing, and bottling systems of liquid propane. Experience includes design and construction of storage facilities utilizing T-1 steel, and some knowledge of refrigerated storage. Reply Box 127, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

MIDDLE AGE MAN, WITH MATURED judgment and ten years' experience in selling and managing L. P. Gas plant. Also oil field experience. Reply Box 131, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

POSITION WANTED WITH LPG PRODUCER or equipment manufacturer. 25 years' selling and management experience in Western dealership. Located on West Coast. Reply Box 128, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

HELP WANTED

RETAIL LP GAS MANAGER. EXCELLENT opportunity in Midwest with expanding National Organization. Responsible for ten men work force with primary emphasis on cylinders. Experience necessary in both cylinders and bulk, service, sales and management. Good pay. Liberal commission. Reply Box 122, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

GAS PROPERTY MANAGER NEW ENGLAND—manufactured and bottled gas utility operation of a nationwide Company has a challenging opening for a progressive, sales minded Manager. Send complete resume of experience to Box 130, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WANTED

Salesman to sell low-priced, high quality paint line to tank customers.

NO COMPETITION AT OUR PRICES

MICHIGAN INDUSTRIAL FINISHES CORP.
9045 Vincent
Detroit 11, Michigan

HOW TO FIND A BUYER

You can do it quickly, inexpensively with a classified ad in BUTANE-PROPANE NEWS.

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WANTED TO BUY: PROPANE PLANTS Upper Mid-West, also used tanks 1000 to 30,000 gallon size. Reply Box 99, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WANT TO PURCHASE SEVERAL RE-TAIL L.P. gas businesses. Send information. Reply Box 117, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

WILL INVEST MONEY AND SERVICES in going LPG business. Over 20 years' sales and management experience building large Western LPG company. Reply Box 129, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

BUSINESS OPPORTUNITIES OFFERED

LPG BULK PLANTS. WE SPECIALIZE in selling petroleum properties throughout Midwest. Have number desirable plants for sale. OLE BRODD, PETROLEUM MARKETERS, 605 Produce Bank Bldg., Minneapolis, Minnesota.

NEED CASH TO EXPAND? WE WILL loan on your present assets. Advise what you have and need. Reply Box 118, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

FOR SALE—TWO LP GAS COMPANIES in Illinois. Total cash earnings \$82,000.00 annually. Cash earnings after taxes will retire purchase price in 6½ years. Total gallons 2,467,277. Equipment and plants are completely modern. Down payment for both companies \$155,000. Can be purchased separately. Federated Petroleum, Mel Putnam, 3228 University, Madison, Wis.

FOR SALE — TRUCKS - TRAILERS

WE SAVE YOU MONEY

BRAND NEW 1959 Chev. 2 speed axle, 8.25 x 20 tires, 1800 WG twin propane tank, Viking pump, Neptune Printer Meter, fire ext., 75' each filler and vapor hoses, ICC lights, piped complete with rear cabinet and controls, READY TO USE. ONLY—

\$636.00 Down and 36 payments of \$181.45 including interest.

2000 WG Twin slightly more. Other sizes tanks, pumps, meters, etc., also available. WE TRADE. IMMEDIATE DELIVERY.

White River Distributors, Inc.
Ph. 570—Batesville, Ark.

FOR SALE—TRUCKS - TRAILERS - Cont.

HAUL MORE PROPANE AND LESS STEEL! LOAD AND UNLOAD FASTER! Save the annual Federal tax on trucks that weigh more than 13,000 lbs! Users praise the Nor-Tex 2500 WG Single Barrel Payload Special of 202H X-rayed material and stress relieved. Weighs only 12,890 lbs. completely equipped with High Flow Plumbing, Meter, Hose, Hose Reel, Fire Extinguisher and mounted on cab-forward truck with 108" cab to axle dimension. Increased capacity pump boosts deliveries to 50 GPM. Vapor manifold permits easy simultaneous loading and unloading of twin tanks with either compressor or liquid pump. These popular, carefully engineered and sleek designed Nor-Tex Single and Twin units are produced in four attractive models: The "Standard"—the "Custom"—the payload "Special" and the "DeLuxe." That's not all! Twin units, up to 2000 WG, are mounted on 83" cab to axle. Start hauling more gas and less steel. Do it profitably and in much less time. Phone, wire or write for prices now. NORTH TEXAS TANK CO., Denton, Texas. Phone DUpon 2-5416.

FOR SALE: USED PROPANE TRUCKS. Late Model units ready to go. 1000 to 1600 WG. Also New Units in all sizes. Easy Terms. WE TRADE. White River Distributors, Inc., Ph. 570—Batesville, Ark.

USED PROPANE DELIVERY TRUCKS, 1200 GALLONS W.C. Presently in use and being replaced with larger units. United Petroleum Gas Co., 4820 Excelsior Blvd., Minneapolis 16, Minnesota.

TRINITY BULK TRUCK UNITS

In Stock — Immediate delivery Twin 1400 through 2450 WG your chassis or ours.

There's more cold weather ahead . . . call, write or wire: RAY REEDY

TRINITY STEEL CO., INC.,
DALLAS, TEXAS PHONE FL 7-3901

DELIVERY UNITS: SINGLE OR Twin Barrel. Our prices are competitive. We invite comparison between the equipment and price on our units with any competitive units. We believe we can give you the highest payloads per pound of gross vehicle weight. Write, wire, or phone. Lubbock Machine & Supply Co., Inc. Drawer 1389, Lubbock, Texas.

LEASE OR BUY YOUR LPG TANK TRUCK?

New tax law permits you to take additional depreciation on new equipment BOUGHT. Our cash down & monthly payments are LESS than you pay on LEASE DEAL. Call us for facts. Buy with confidence from—

WHITE RIVER DISTRIBUTORS
Ph. 570 — Batesville, Ark.
All Sizes—Immediate Delivery

CLASSIFIED Advertising



FOR SALE—TRUCKS - TRAILERS - Cont.

BULK TRUCK — THE BEST FOR THE Money. 1800 gallon twin, GMC truck, Print-O-Meter, Viking Pump. Looks good, is good. Pictures on request. ONLY \$2950.00. Reply Box 126, BUTANE-PROPANE News, 198 So. Alvarado St., Los Angeles 57, Calif.

FOR SALE—USED PROPANE DELIVERY TRUCKS—Ready for service. 1,200 to 1,800 W.G. Financing available. Also New Trucks. Write for list of units and prices. McNAMAR AND CROWLEY, INC., Box 210, Salem, Illinois.

NEW DEALERS

We are in the retail gas business and can help you, as we have helped hundreds of others to whom we have sold delivery trucks. Easy Terms on NEW & USED DELIVERY TRUCKS. WE SAVE YOU MONEY.

WHITE RIVER DISTRIBUTORS
Ph. 570 — Batesville, Ark.

TRANSPORTS: SINGLE OR TWIN barrel; new or used; for lease, or sale on budget or rental sale plan. If you want maximum payload, with all of the latest equipment engineered to fit your truck, roads, and your hauling problem, get the **LMC PAYLOADER**
Contact Lubbock Machine & Supply Co., Inc., Drawer 1589, Lubbock, Texas.

TRADE WITH A TRADER NEW & USED BULK TRUCK UNITS

I'm CRAZY but I'll TRADE with you on the phone (traveling salesmen cost money—I don't use them—PASS THE SAVINGS on to you & still make money for my wife & kids). Mail me photo of used unit you want to trade-in & tell me size of new unit you want. WHO AM I?

Preston Grace

WHITE RIVER DISTRIBUTORS
Ph. 570 — Batesville, Ark.

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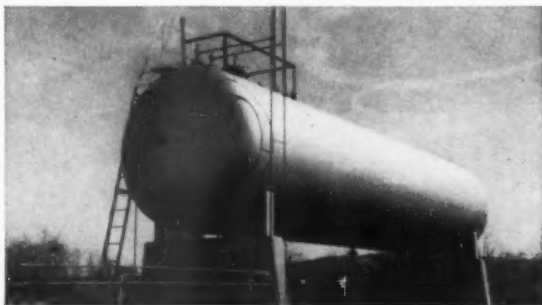
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